FOUNDED IN 1856

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

JUNE 30, 1952

Transportation Library

How do *your cars* look to men who catch the 8:02?

You can catch the eyes of suburban commuters—many of whom are your best shipping prospects—with smartly finished, modern-looking freight cars. Rolling past platforms, they attract attention *instantly* . . . can point up sound, progressive management *at a glance* and create a good impression that *lasts*.

Today, many experienced railroad men are turning to DULUX Railroad Finishes to make the right impression. They know that rugged DULUX *protects* best against rough weather, smoke, cinder blast . . . stands up to scrubbing and drubbing. And DULUX *reflects* the best kind of management through distinctive, line-identifying colors that hold their original sparkle longer than ordinary railroad paints. These DULUX qualities cut long-run maintenance costs.

No matter where your cars are seen—in the station, in the yard or on the go—make *sure* they make an immediate, good impression with DULUX Railroad Finishes. E. I. du Pont de Nemours & Co. (Inc.), Finishes Div., Wilmington 98, Del.

85% of America's leading railways* use DUCO lacquer or DULUX enamel on passenger-train equipment.

. . . conclusive proof that the nation's railroads depend on the exceptional qualities of Du Pont DUCO and DULUX Railroad Finishes: outstanding durability and sparkling beauty with a minimum of maintenance.

*Includes Class 1 lines operating 100 or more passenger-train cars.

Chemically engineered to do the job *better*

DU PONT
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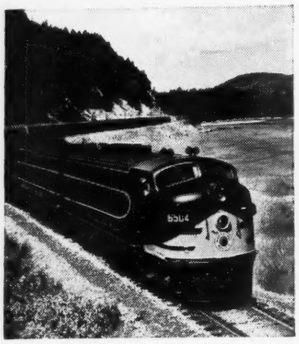
150th Anniversary
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

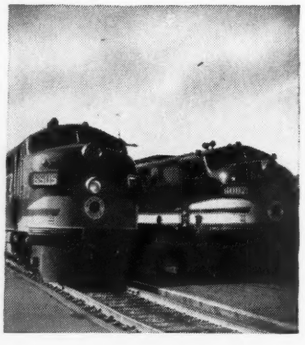
Railroad Finishes

Finish Facts from DU PONT

Northern Pacific's North Coast Limited stays de luxe with DULUX



Northern Pacific's crack *North Coast Limited* barrels along the "Main Street of the Northwest" over 1,408 miles of track between Chicago and the North Pacific Coast. Attracting pleasure travel, the route runs by scenic rivers and crosses the Continental Divide in the Montana Rockies. To keep a luxury look, Northern Pacific depends on DULUX Railroad Finishes for lasting beauty and the rugged protection needed to scientifically combat variable Northwest weather.



Standing on the right beside the *North Coast Limited* is one of the 5400 h.p. diesels used in main line heavy freight service. These giant diesels take repeated scrubbings, but their Du Pont colors resist fading month after month . . . snap back and sparkle the moment track grime and dirt are sprayed off.

Northern Pacific is another of the many leading railroads that demand finishes of known quality. From experience they know they can depend on Du Pont for better railroad finishes.

Vol. 132, No. 26 June 30, 1952

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

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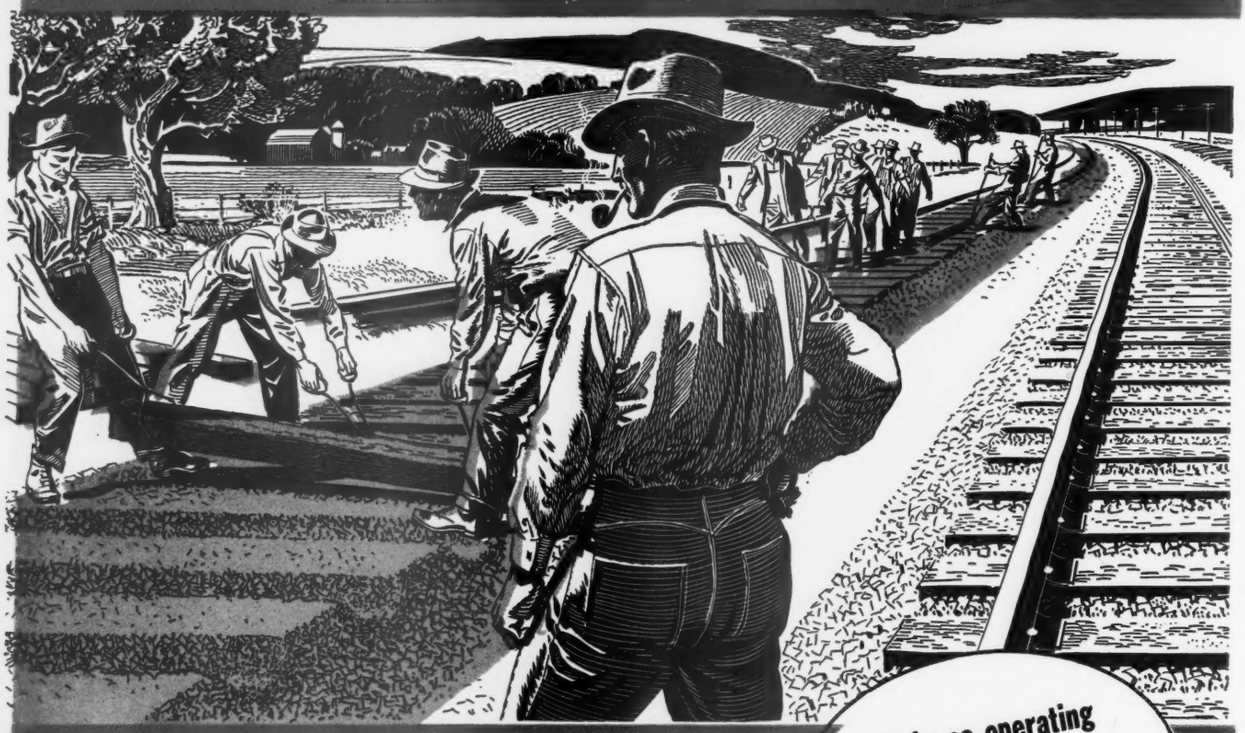
Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
Railway Engineering & Maintenance Cyclopedia American Builder
Marine Engineering & Shipping Review Marine Catalog & Directory
Books covering transportation and building

Railway Age is a member of Associated Business Publications (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. Printed in U. S. A.

They're digging out COSTS...along with the track



A SINGLE TRACK WITH UNION C.T.C.

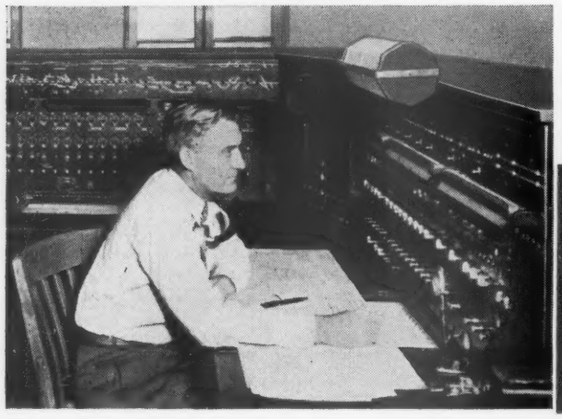
Reduces operating expenses

Conserves costly, vital materials

HERE'S ONE RECORD*

1. Provided a more economical track and signal layout for existing traffic.
2. Reduced annual operating expenses $39,229.00 per year.
3. Provided other savings and salvage totaling —$295,744.00.
4. Released track and signal material for use at other points.
5. Reduced the trackage required for meets and passes.
6. Eliminated necessity for future track renewal on track abandoned.

*Factual data will be supplied on request.



"UNION" Centralized Traffic Control can reduce terminal-to-terminal time with safety and pay its way through reductions in operating expenses. May we help you?

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, four months
1952 ..... $3,434,950,070
1951 3,291,838,624

Operating expenses, four months
1952 ..... $2,677,624,722
1951 2,598,177,896

Taxes, four months
1952 ..... $ 409,483,233
1951 375,476,456

Net railway operating income, four months
1952 ..... $ 290,914,109
1951 251,321,653

Net income, estimated, four months
1952 ..... $ 186,000,000
1951 153,000,000

Average price railroad stocks
June 24, 1952 ..... 62.98
June 26, 1951 ..... 50.08

Car loadings, revenue freight
24 weeks, 1952 17,243,085
24 weeks, 1951 18,263,756

Average daily freight car surplus
Week ended June 21, 1952 24,246
Week ended June 23, 1951 23,377

Average daily freight car shortage
Week ended June 21, 1952 2,678
Week ended June 23, 1951 9,577

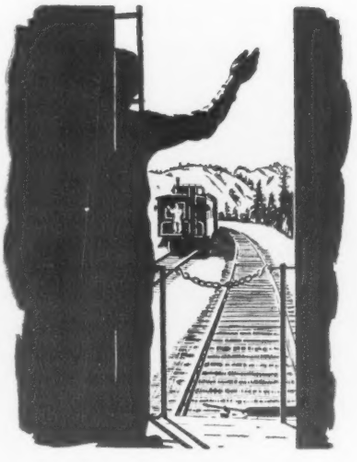
Freight cars delivered
May 1952 6,857
May 1951 9,774

Freight cars on order
June 1, 1952 103,910
June 1, 1951 150,628

Freight cars held for repairs
June 1, 1952 100,854
June 1, 1951 94,038

Net ton-miles per serviceable car per day
April 1952 (preliminary) 964
April 1951 1,042

Average number railroad employees
Mid-May 1952 1,242,620
Mid-May 1951 1,291,172



In This Issue . . .

PULLMAN-STANDARD LOOKS BACKWARD—In text and pictures Railway Age *this week takes the occasion of a double anniversary at Pullman-Standard to sum up the story of that organization's development and to suggest some of the contributions it has made to the railroad industry. This year marks the centennial of the Haskell & Barker unit of Pullman-Standard at Michigan City, Ind., as well as the fiftieth anniversary of the Butler, Pa., plant.*

—AND AHEAD. The earliest cars built by Haskell & Barker were almost entirely of wood. The all-steel car was developed around the turn of the century, and the Butler plant, established in 1902 by John Hansen and "Diamond Jim" Brady, was devoted to its production. Since then, Pullman-Standard has forged ahead in the development of more economical manufacturing techniques and in the utilization of superior structural materials. As is true of all progressive concerns in the railway supply industry, and indeed in American industry generally, continuous research is under way to bring about further improvements in design and quality.

INTEGRATION AND DIVERSIFICATION. As the "flow chart" on page 43 indicates, the present Pullman manufacturing organization, topped by Pullman, Inc., is the result of the consolidation and assimilation of car-building concerns whose beginning goes back to Osgood Bradley, formed in Worcester, Mass., in 1820. In recent years the firm, via subsidiaries acquired or developed, has expanded its activities into such growing and relatively stable manufacturing fields as earth-moving equipment, truck trailers, and oil field and oil refinery equipment.

"BLEACHERS." Among production short cuts developed by Pullman-Standard people the so-called bleachers—a step-down work rack used at Butler for center-sill welding—is typical (page 52). Assembly line principles were devised and applied in car manufacture at the Haskell & Barker plant, Pullman-Standard officers proudly point out, long before Henry Ford and the automobile industry popularized the idea (page 48).

TOUGHEST HANDICAP. Railroad spokesmen sometimes are accused of "weeping in their beards" about troubles that afflict the industry when —so their critics say—they aren't doing anything constructive to overcome them. But it is essential to acknowledge the existence of a problem, and to reduce it to specific terms, before anything effective can be done about it. Our leading editorial this week does this (page 41), suggesting several ways—there are more—in which the railways can take some

WEEK AT A GLANCE

action about their toughest handicap, namely, the necessity of getting many or all railroads to collaborate in order to adopt any new practice or advance in technology.

RETARDER WITH SPEED CONTROL—that's what the Milwaukee has installed in its rebuilt Air Line yard at Milwaukee, supplementing push-button automatic switching. The operator touches one button to control the speed at which a humped car leaves the master retarder, and another to line up the switches for it to find its way to the proper track. This installation is described on page 64, and the whole project of modernizing this important yard is outlined in the article on page 58.

400,000 G. T. M. PER TRAIN-HOUR—That's the performance record turned in on a test run by the Pennsylvania's new Westinghouse-built Ignitron locomotive for electrified territory. Details on page 66.

In Washington . .

LATEST STATISTICS IN THE NEWS show that there were 3,995 railway-highway grade crossing accidents in 1951, resulting in 1,578 fatalities.—at least the figures are no worse than last year's. And for the first time in the history of American railroads the steam locomotive rates second in total number of units in service. On June 1 there were 19,082 diesel units and only 18,849 steam. Another record: In May 1952 the railroads retired from service 689 steam locomotives, the largest number for a single month since the figures have been compiled.

THE ESCALATOR GOES UP AGAIN and railroad employees whose rate of pay is subject to the tie-in with the government cost-of-living index get a raise of 2 cents an hour for this year's third quarter. That makes a total "escalator clause" increase of 12 cents an hour since the deal became effective.

CHAMP CARRY has the distinction of being chairman of the board of directors of the Pullman-Standard Car Manufacturing Company as that organization reaches its one-hundredth anniversary. In recognition of that event, no less than six feature articles in this issue are devoted to the past history and the present accomplishments of the big car building company.

. . . And Elsewhere

NEWS NOTES: Eastern railroads plan to charge a quarter to check each piece of baggage handled on trains (50 cents for trunks), effective July 1. . . . The special road built in Idaho to measure the damage done to highways by big trucks is about ready to go into service. . . . President Gurley of the Santa Fe challenges people who accuse the railroads of "timidity" in ordering more cars now; union leaders and government regulators have hoisted caution signals that can't be ignored, he declares.

A RASH OF RAILROAD MOVIES may be in the offing. Film columnist Hedda Hopper reports producers as taking renewed interest in epics of the past, such as Cecil B. De Mille's highly successful "Union Pacific." Miss Hopper terms the Frank Donovan history of the Minneapolis & St. Louis, "Mileposts on the Prairie," and the life of President Lucian C. Sprague as "hot for pictures." Meanwhile, the quasi-historical depiction of "The Denver & Rio Grande," starring "Cinder Ella," D&RGW narrow gage locomotive 268, has begun showings in theatres from coast to coast.

Number of Diesel Units Has Passed Steam-Engine Total

Diesel ownership as expressed in power units exceeded ownership of steam locomotives, for the first time, during May.

This was noted by Chairman Arthur H. Gass of the Car Service Division, Association of American Railroads, in his latest monthly review of "The National Transportation Situation."

Mr. Gass' figures showed that Class I railroads owned 19,082 diesel-electric power units on June 1. On the same date, they owned 18,489 steam locomotives. The 689 steam locomotives retired in May set a new monthly record. Meanwhile, the month's diesel-electric installations totaled 317 new units.

As to freight cars, May brought a 2,500-car drop in the fleet of serviceable cars owned by Class I roads and their car-line affiliates. At the same time, Mr. Gass' report also had figures showing that serviceable ownership on June 1 (1,742,902 cars) exceeded that of June 1, 1951, by 26,000 cars, including gains of 5,000 box cars, 8,000 gondolas, and 6,000 hoppers.

May's loss of 2,500 serviceable cars was due to an increase in the number of cars awaiting repairs. The 6,365 new cars received during the month were sufficient to offset retirements and raise total ownership by 813 cars. As to June 1's total of box cars awaiting repairs (38,603), which was 10,000 above the total as of June 1, 1951, Mr. Gass suggested the increase "seems to be indicative of more, rather than less, repair work."

"Almost all of the increase," the C.S.D. chairman explained, "is in heavy repair cars, presumably the result of the return of more than 100,000 box cars to home rails. There were 13,039 box cars given heavy repairs during May this year as compared with 12,286 in the preceding month and 11,089 in May 1951."

Mr. Gass' usual review of equipment conditions by types of cars included an outline of railroad preparations for moving the record grain crop. While he reported a "noticeable tightening" in box car supply during the past month, he also asserted that railroads "are in excellent condition to provide cars to move every bushel of grain for which the terminals have space and can handle expeditiously."

Meanwhile, the supply of stock cars has been "adequate," and supplies of hoppers and gondolas have been generally ample, due to the steel strike. Some shortages of plain flats have been reported recently, while orders for special-type flats "are being filled on a deferred basis." The supply of covered hoppers has been "reasonably good," but a shortage of refrigerator cars will be avoided only by "prompt loading and prompt release."

The report's figures on performance showed that the April average of net ton-miles per serviceable freight car per day was 964. This compared with 996 for the previous month and 1,042 for April 1951. "The indicated slackening in the tempo of car utilization is the natural result of decreased freight traffic," Mr. Gass said.

Reports from shipper car-efficiency committees indicated that cars detained beyond the free time of 48 hours averaged 14.62 per cent of those placed in May. This compared with April's 14 per cent and 13.67 per cent for May 1951.

NS "Practices" Defended By McGinnis Before I.C.C.

P. B. McGinnis, chairman of the board of the Norfolk Southern, last week defended the "management, accounting, financial and other practices" of his road when he appeared as one of the principal witnesses at renewed hearings in the so-called Norfolk Southern case. During two days on the witness stand, Mr. McGinnis undertook to answer commission charges against the road. The commission's case was embodied in testimony and exhibits presented by Richard J. Ferris, an accountant-investigator, at hearings held last April (*Railway Age*, April 28, page 17, and May 5, page 12).

Against a background of improved earnings, reduced long-term debt, lower fixed charges, and regular payment of dividends, Mr. McGinnis contended that salaries and expenses of the road's officers have not been too high or otherwise out of line.

This investigation into the Norfolk Southern "practices" was instituted last January on the commission's own motion. The inquiry also includes the NS bus company and other subsidiaries as

well as several of the road's principal officers. Presentations with respect to high salaries and expense accounts were a large part of the commission's case, as presented at the April hearings.

Among other things, commission evidence showed the NS made cash advances to two warehouse subsidiaries for officer salaries and director fees which were in excess of the earnings of such subsidiaries. Mr. McGinnis testified last week that steps were taken to correct this situation before the commission ordered its probe of the railroad.

At the conclusion of his testimony, Mr. McGinnis made a brief statement in which he recounted how the NS has emerged as a profit-making road since his group took over in 1947. He said the situation that existed then required more than able personnel—"We had a condition where we had to spend some money." He added that in view of the general results since 1947, it was inconceivable to him that the road's expenses should be questioned.

Other witnesses presented by the railroad during the most recent hearings included several shippers who testified that NS service in recent years has been substantially better than in the years prior to 1947. Operating men took the stand to testify that physical properties of the NS are today in better condition than at any time in the past.

The hearings, before Interstate Commerce Commission Examiner O. L. Mohundro, have now recessed until September 3. At that time commission lawyers will cross-examine the road's witnesses.

Senate Group Approves Three Nominations

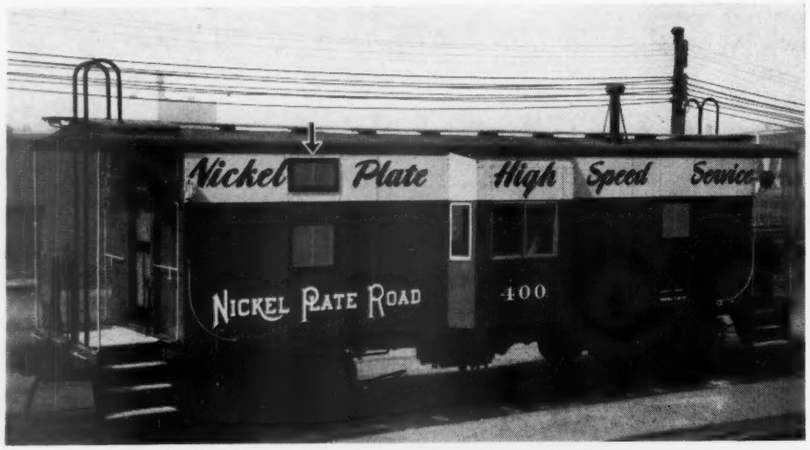
The Senate Interstate and Foreign Commerce Committee voted last week to recommend that the Senate confirm the appointments of Martin Kelso Elliott and Anthony F. Arpaia as new members of the Interstate Commerce Commission. The committee also reported favorably on the reappointment of Charles D. Mahaffie to the commission.

Mr. Elliott, a Republican from Indiana, and Mr. Arpaia, Democrat from Connecticut, were nominated to the I.C.C. by President Truman on June 17. As noted in *Railway Age* of June 23, page 16, Mr. Elliott would replace Commissioner Clyde B. Aitchison, and Mr. Arpaia would fill the vacancy created last April by the resignation of Commissioner John L. Rogers.

Confirmation of Commissioner Mahaffie for a new term on the commission has been held up by a series of hearings at which the appointee was subjected by Senator Tobey, Republican of New Hampshire, to a comprehensive examination on commission policies and decisions in railroad reorganization cases. (*Railway Age*, March 31, page 18). Senator Tobey completed his questioning of Mr. Mahaffie at a hearing on June 25.

Mr. Mahaffie's new term is for seven years from January 1, 1952. Mr. Arpaia's appointment is for a term expiring December 31, 1957, while Mr. Elliott would complete a term extending through December 31, 1956.

The Senate committee completed public hearings on Mr. Elliott and Mr. Arpaia in less than 15 minutes. There was no opposition. Mr. Arpaia is a former vice-president and general counsel of Adley Express Company, a New England trucking firm, but during his appearance before the committee it developed he left this position in 1951.



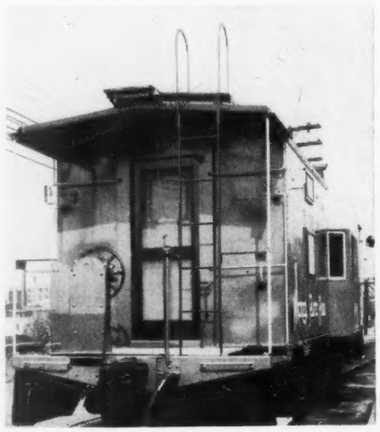
Nickel Plate's "pilot model" caboose features screened sliding windows, alongside each of two upper berths, for good ventilation.

Interior of the caboose has comfortable appointments. Safety rod hung from the ceiling gives crew something to grab.

The Nickel Plate Tests New Cabooses

A new Nickel Plate caboose, built at the Toledo car shops to the road's own design, will be tested over the entire system this summer. Incorporating new features for crew comfort and safety, the car is undergoing service trials as a "pilot model" to get crews' reactions with a view to making design modifications before construction of additional units is started.

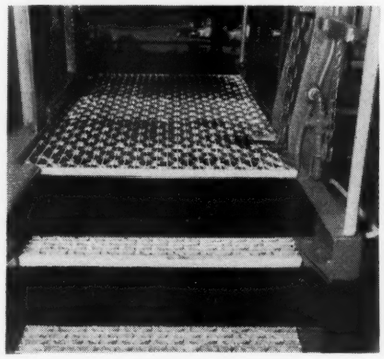
Among the safety devices on the in-



For safe ascent to the top of the car, the ladder sides extend well above the roof line.

itial car is a 12-volt Mars light mounted on the platform railing, which flashes on, when the brakes are applied, to warn following trains. This light, also a "pilot model" designed by Mars expressly for the new caboose, throws an oscillating red beam five miles down the track.

Platforms, steps and roof walk are constructed of latticed, non-skid steel that provides a good grip for shoes and keeps these areas free of ice and snow. The sides of the ladder extend well beyond the roof line for safer ascent to the roof. Inside the car and extending from one end to the other is a rod suspended from the ceiling for crewmen to grab if the car lurches.



Expanded metal is used for the steps and the platforms to prevent ice accumulation and to present a non-skid surface.

For the first time on the Nickel Plate, the new caboose uses bay windows for getting a view of the cars ahead. Radio equipment is included for communication between the head and rear ends of the train. Electric lights replace the oil lanterns long used in cabooses, with a generator furnishing current for these and the marker and Mars lights.

Altogether there are eight lockers for clothing and other personal equipment, an ice box, a cupboard and a stove for heating and cooking. There are two lower and two upper berths, the latter folding against the wall. A window is installed alongside each upper berth for ventilation in warm weather.

Pacific Coast Board Holds 88th Regular Meeting

"The third quarter of this year may see the low point of production of new freight cars," C. R. Megee, vice-chairman, Car Service Division, Association of American Railroads, told the recent 88th regular meeting of the Pacific Coast Transportation Advisory Board in San Francisco. "We must find ways and means," he added, "of trying to get more from the cars that are serviceable and available. We need a quicker turnover; we need the highest practical degree of car service rules observance; we need to do more in reducing the damage to equipment by mechanical means of loading and unloading, such as magnets and clamshell methods. There are too many cars going to repair tracks which stay out of circulation for several days."

Lloyd E. Graybiel, vice-president, American Trust Company, spoke on "Transportation's Stake in Dollar Diplomacy" at a luncheon sponsored by the Industrial Traffic Association of San Francisco, the Pacific Traffic Association of San Francisco, the San Francisco Traffic Club, the Transportation Club of San Francisco, the Women's Traffic Club of San Francisco, the Oakland Traffic Club and the Women's Traffic Club of Oakland.

A. K. McNeill, superintendent transportation, south-central district, Union Pacific, was elected chairman of the railroad contact committee. Grant S. Allen, superintendent transportation, Western Pacific, was elected vice-chairman of the committee, and R. D. Shelton, assistant general manager, Coast lines, Santa Fe, was named secretary. F. Z. Wakefield, western traffic manager, Great Lakes Carbon Corporation, was elected to the executive committee. The board's next meeting will be held in the Biltmore Hotel, Los Angeles, September 18-19.

WILLIAM WHITE TO HEAD NEW YORK CENTRAL, SHOEMAKER THE DL&W

On June 26, New York Central directors elected William White — heretofore president of the Delaware, Lackawanna & Western—as president and chief executive officer of the Central, effective August 1. Gustav Metzman, whom he succeeds as the Central's president, has been elected chairman of the board, to serve in this capacity until the time of his retirement under the company's pension rules, at the end of the current year, after which he will continue to serve as a director and in an advisory capacity. Mr. White has also been elected a Central director and a member of its executive committee, succeeding Raymond D. Starbuck, who retires after nearly a half-century of service.

Perry M. Shoemaker, vice-president, operation, of the Lackawanna, has been elected president of that company to succeed Mr. White — this change, also, to take effect August 1.

Knudson Gives Views On "L.C.L. Dilemma"

Members of the Central Western Shippers Advisory Board, meeting at Zion National Park, Utah, on June 18, heard James K. Knudson, Defense Transport Administrator, indicate a possible solution of the "l.c.l. dilemma."

Mr. Knudson pointed out that although Central Western board members are primarily carload shippers, they could not be "wholly unconcerned" with the l.c.l. problem, because "to the extent that a carrier does not obtain a fair return from one segment of its business, it must look to other categories of traffic to make up that deficiency." He said that while there have been numerous and dramatic improvements in the line-haul phases of rail service, the "real incubus on railroad operations—growing cancerlike in costs for a quarter of a century, and particularly true of l.c.l. traffic—is the matter of terminal operations." Despite such efforts as the "Griffin plan," the mechanization of freight stations, substitution of trucks for way-freight trains, operation of overhead merchandise trains and publication of their schedules, he said that l.c.l. had fallen since World War II from 1.8 to 0.7 per cent of all freight tonnage on Class I roads.

He said he found it "difficult to understand how some railroads presently divide their l.c.l. freight between forwarders, which they themselves control, and their regular freight handling facilities. I'm told that the forwarder, under such circumstances, doesn't hesitate to use the goad of competition to drive his freight through to destination on fast schedules and safe handling basis. This is all to the good so far as the shipper is concerned, but it leaves the railroad in the position of dividing its attention on a class of freight that should be given, at times, at least, equal treatment. By and large, the forwarders operating under such arrangements are as progressive as they are independent. Perhaps their progressive ideas are the yeast that will leaven the l.c.l. loaf for the railroads.

"In considering a solution of the l.c.l. dilemma, two premises should be allowed. Shippers are entitled to adequate and economical service for the transportation of shipments in l.c.l. quantities. On the other hand, the railroads should not, and they should not be expected to, provide such service devoid of reasonable profit. To do so forces the railroad to recoup from the carload business. If this situation can be remedied by improved service or by reasonable and lawful adjustment of rates, or a combination of the two, l.c.l. service by rail will continue. But if a solution of this type is not forthcoming, matters should not be left . . . dangling forever between heaven and hell but admitted to neither. Railroads, if unable to handle l.c.l. business at a profit, should be relieved of the obligation to accept this traffic.

"In that event," Mr. Knudson concluded, "the traffic would go increasingly more to motor carriers and air

EVOLUTION OF THE IGNITRON

Original Ignitrons serving since 1936 were rated 25 amp.

New Ignitrons using improved ignitors operate at 400 amp.

Ever since the Ignitron mercury-arc rectifier principle was announced by the Westinghouse Electric Company in 1932, engineers have worked to make the Ignitron tube more efficient and reliable.

Working with ignitors for the tube, Adolph Toepfer put some of the early Ignitrons on test in 1936 (left) to find out how long they would last. Fifteen years later, during which time the tubes have struck new arcs some 27 billion times and run up a power bill of over $4,000, the Ignitrons are still converting a.c. to d.c. With reduced anode voltage, and because some carbon has sputtered off the graphite anodes and darkened the glass envelopes, the tubes do not burn as brightly (right). Boron-carbide ignitors are still used in the latest Ignitrons, but a method has been devised of molding boron-carbide powder in a graphite mold, whereas the original ignitors were made by heating carbon to 2,000 deg. F. and converting boron-oxide to boron-carbide. The early Ignitrons pictured were rated 25 amp.; the new type WL-688 Ignitrons shown are rated 400 amp.

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lines. But a large proportion might be held to the rails as profitable carload traffic through the medium of the freight forwarders and, perhaps, through some specially created agency or agencies to supplement railroad service."

"Invitations" Issued for Pan-Am Railway Congress

The State Department has printed and is distributing—in English and Spanish—a 52-page booklet inviting interested persons to participate in the VIII Pan-American Railway Congress, to be held at Washington and Atlantic City June 12-25, 1953. This booklet contains a list of suggested subjects upon which qualified persons are invited to write papers for consideration by the congress.

Copies of the invitation booklet may be obtained on application to L. J. Kiernan, executive secretary, Organizing Committee, VIII Pan-American Railway Congress, care Association of American Railroads, Transportation Building, Washington 6, D. C.

Great Lakes Board Meets in Buffalo

"Railroads have been plagued with too much governmental regulation, too much labor union and not enough public support," Melvin H. Baker, chairman of the National Gypsum Company, said in Buffalo, N.Y., on June 18. Speaking at a meeting of the Great Lakes Regional Advisory Board, Mr. Baker added: "The public should be made to realize that our railroads are basic to our industrial economy and likewise essential to the nation's security. Too often we are prone to criticize the railroads without considering the extent to which their activities have been circumscribed."

W. E. Callahan, manager of the Open Top Section of the Car Service Division, Association of American Railroads, told the meeting that the steel strike is costing railroads at least $5,000,000 weekly in lost revenue. As the strike stretches out, he said, the loss will become progressively greater. Mr. Callahan added that unsatisfactory steel allocations for constructing railroad cars and locomotives are making it increasingly difficult for the carriers to build themselves into an adequate transportation system for the defense program.

CPR Announces Schedule Changes

Faster daylight service through the Coquihalla Valley in southern British Columbia, as an alternate route to Canadian Pacific transcontinental train service, has been announced by the CPR. Schedule changes, under which the "Kettle Valley Express" and the "Kootenay Express" travel a maximum of daylight time through one of North America's picturesque regions, permit saving up to five hours of travel time and also provide for more convenient connections with main eastbound and westbound transcontinental trains. Passengers can now make the trip through the Rocky Mountains one way via the main CPR line through Banff, Alta., Lake Louise and Revelstoke, B.C., and return through the Coquihalla Valley past Penticton, B.C., Nelson and through Crowsnest Pass.

Eastward Transcontinental Freight Speeded 24 Hours

Eastbound "transcontinental" time freight schedules from west coast points to midwestern gateway cities are being reduced by a full day effective July 1 on most major routes. Initial announcement of the improved service—which matches a similar cut in westbound service made early this month (*Railway Age*, June 9, page 17)—came from the Great Northern on June 19. The GN said shipments leaving Seattle and Portland on the night of June 30 would be delivered to receivers in St. Paul and Minneapolis on the fifth, instead of the sixth, morning. Service through to Chicago (via the Burlington) would be on a sixth-morning basis and proportional

reductions were announced for intermediate points such as Spokane. On June 20 similar announcements were made by the Northern Pacific and the Milwaukee.

The Southern Pacific and the Western Pacific announced that the faster schedules would apply to perishable traffic only. And they added that the new arrival times were not being guaranteed.

The Soo line indicated that details of faster transcontinental service were being worked out with the Canadian Pacific and that a proportional speed-up was being planned between the Twin Cities and Chicago for transcontinental freight received from connections.

In some cases the improved service will not be placed in effect until after July 1.

NP Trains Using New Line

Northern Pacific trains on June 23 began operating over a new line two miles west of Bismarck, N.D., near the crossing of the Missouri river. The project, completed at a cost of $425,000, involved relocation of about 3,000 feet of track, reduction of two curves and stabilization of a slide area at the east end of the Missouri River bridge. The project, begun late in 1951, has required removal of some 760,000 cu. yd. of earth.

"Roads Ready for Grain," Gurley Tells T.M.K. Board

"The railroads are in good shape to handle the grain movement this year," F. G. Gurley, president of the Santa Fe, told members of the Trans-Missouri-Kansas Shippers Board assembled at Wichita, Kan., on June 12 for the board's "Annual Grain Session" and 93rd regular meeting. His words were echoed by R. E. Clark, of the Car Service Division, Association of American Railroads, who told board members that the 28,000 box cars available as of May 15 for wheat shipments represented an increase of about 11,000 over the supply available last year and that the fleet was still being added to daily. Further cause for optimism, he said, lay in the fact that more elevator space would be available this year.

Mr. Gurley warned board members "there will be some headaches." He said the per diem rate was not sufficiently high to encourage additional car construction — it being cheaper to "rent" than to "build"—and therefore equipment problems come along with each "emergency." He said that management confidence in large expenditures for cars was sapped by close government regulation of railroad operations. Labor, too, he said, has played a part in the timidity of railroads to "strike out in confidence for higher achievement."

He said he opposed a closed shop as recommended by the presidential board through "persuasion" of labor groups because: "I believe the power belongs to no one to force workers for any industry to support with dues a labor organization in which they do not believe. If industry is to reach the heights for which America has been renowned in the past, government officials should approach labor-management problems in the light of true justice rather than advocating, as they have recently, intervention and seizure which curtails collective bargaining."

The board will hold its next meeting at Tulsa, Okla., on September 24-25.

Freight Car Loadings

Loadings of revenue freight in the week ended June 21 totaled 643,860 cars, the Association of American Railroads announced on June 26. This was an increase of 12,817 cars, or 2 per cent, compared with the previous week; a decrease of 189,082 cars, or 22.7 per cent, compared with the corresponding week last year; and a decrease of 166,111 cars, or 20.5 per cent, compared with the equivalent 1950 week.

Loadings of revenue freight for the week ended June 14 totaled 631,043 cars; the summary for that week, compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, June 14 District	1952	1951	1950
Eastern	110,339	144,753	143,841
Allegheny	102,998	170,994	165,231
Pocahontas	49,741	65,397	60,882
Southern	118,987	126,934	124,492
Northwestern	69,039	137,265	125,058
Central Wester	120,340	122,770	127,117
Southwestern	59,599	58,770	59,255
Total Western Districts	248,978	318,805	311,430
Total All Roads	631,043	826,883	805,876
Commodities:			
Grain and grain products	51,815	46,114	48,296
Livestock	6,882	6,815	7,283
Coal	113,708	148,119	144,312
Coke	4,585	16,954	14,957
Forest products	44,638	49,420	48,145
Ore	18,164	90,014	79,983
Merchandise l.c.l.	69,111	74,834	82,122
Miscellaneous	322,140	394,613	380,778
June 14	631,043	826,883	805,876
June 7	684,243	813,326	796,041
May 31	697,026	744,655	709,896
May 24	761,647	811,709	780,996
May 17	754,373	809,475	743,313
Cumulative total 24 weeks	17,243,085	18,263,756	16,291,259

In Canada. — Carloadings for the seven-day period ended June 14 totaled 80,780 cars, compared with 83,391 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
June 14,1952	80,780	31,682
Cumulative Totals		
June 14, 1952	1,827,870	823,954

Escalator Clauses Call For Two-Cent Pay Raise

Railroad employees working under agreements with so-called escalator clauses will receive a wage increase of two cents per hour, effective with the beginning of this year's third quarter on July 1. Half the increase, however, will amount to recovery of the escalator-clause cut of one cent per hour in effect during the current quarter.

The clauses call for quarterly adjustments of one cent per hour for each point of change in the Consumers' Price Index (old series) calculated by the Bureau of Labor Statistics. The May 15 index of 190.4 requires the July 1 raise, which will be effective for three months.

That index was more than two points above the February 15 index of 188.3. The latter, which governed during the current quarter, was one point below the November 15, 1951, index, which fixed the escalator-clause factor for this year's first quarter.

The escalator-clause base is 178, so the July 1 adjustment will bring the raises it has provided up to 12 cents per hour.

Knudson Calls for More Rail-Truck Coordination

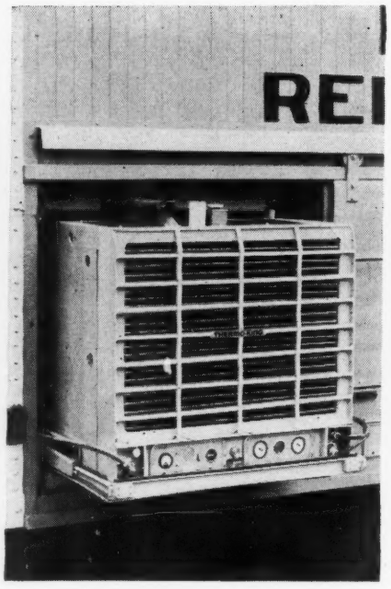
James K. Knudson, defense transport administrator, last week called for further coordination of railroad and highway transport operations. He suggested that transportation services, especially to and from small communities, would be improved if the competing agencies went in for more cooperation, particularly in the way of publishing joint rates.

Statements along these lines were made in the course of an address which the D.T.A. administrator delivered June 25 before the Traffic Club of Billings, Mont.

Joint rail-truck rates was only one coordinating device which Mr. Knudson discussed. He talked, too, of trailer-on-flat-car operations; of "the possibility of mounting regular highway trailers so that they can be assembled into trains and moved on rails, using their own wheels"; and of questions which he said have been raised as to why freight forwarders should not assume the responsibilities of their recently won status as common carriers and provide more comprehensive services throughout territories they are authorized to serve.

The trailer-on-flat-car service "is no longer in the experimental stage from an engineering standpoint," Mr. Knudson said. "In proper circumstances," he added, "this device offers an economical method of moving loaded or empty trailers for rather long distances, and the railroads have found that the service can be offered at a rate which is attractive to the trucker . . . and . . . affords a reasonable net return to the railroad. While it is in no sense a cure-all for the movement of this type of traffic, I am informed that careful consideration is being given to the practicality of a far wider extension of this type of service. It is an operation which offers promise for future opportunities in transport coordination and as such should receive encouragement."

As to joint rail-truck rates, Mr. Knudson noted that they are not generally available, and he understands that the Railway Express Agency has



MECHANICAL REFRIGERATION is being used in 25 new refrigerator cars owned by the Mather Stock Car Company and leased to John Morrell & Co., meat packers. The cars are being assigned to handle meat from Morrell's Ottumwa, Iowa, plant to points in Florida, and it is contemplated that they will carry frozen fruit juice concentrates on the return move (*Railway Age*, March 17, page 14).

Built by the Thermo-King Railway Corporation, Chicago, the units will be required to maintain a uniform temperature of 34 to 36 deg. F. for the fresh meat shipments, and of —5 deg. F. for the fruit juice concentrates. Shown at the right is the gasoline engine compressor-condenser unit with fuel and control connections in place ready to be rolled into the car and covered by the sliding door.

not established joint rates with independent truckers "on any comprehensive scale." One result, as the D.T.A. administrator sees it, has been poor l.c.l. service to and from points not located on a railroad. And he suggested that this should be of concern to regulatory authorities, because "the original concept of the I.C.C. was that it should be a poor man's court."

It was in the course of a brief discussion of prospects for forwarder services to the off-rail points that Mr. Knudson referred to assertions which, he said, have been made to the effect that forwarders do not provide comprehensive services in territories where they operate. They avoid doing so, he explained, by publishing what amount to "penalty rates" on unwanted traffic. Meanwhile, Mr. Knudson had made this statement:

"If receivers at off-rail points encounter substantial inconvenience in the use of rail or express service, it may well be that a measurable answer to their needs lies in the use of either forwarder or all-motor service from origin to ultimate destination."

1951 Crossing Accidents Were on 1950's Pattern

There was "a remarkable similarity in the over-all record" of grade-crossing accidents in 1950 and 1951, according to the latest compilation, Statement No. 5215, of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

Last year's crossing accidents resulted in the deaths of 1,578 persons—two more than the 1,576 killed in 1950. The number of persons receiving nonfatal injuries decreased by 33—from 4,368 in 1950 to 4,335 last year. The number of accidents was down by five —from 4,000 to 3,995.

Compared with averages for the six immediately preceding years, 1951 accidents and injuries were up "about 2 per cent" and deaths were down "about 8 per cent," the bureau said. It noted that the six-year averages "were influenced downward by the very good record of 1949." In that year, the number of accidents totaled 3,523, the fatalities, 1,507, and the injuries, 3,774.

The 1951 crossing fatalities accounted for 49.2 per cent of the total number of persons killed last year in all railroad accidents resulting from train operation. The comparable figure for 1950 was 48.39 per cent. As for 1951's non-fatal injuries in accidents resulting from train operation, crossing accidents accounted for 19.18 per cent of the total, as compared with 20.07 per cent in 1950.

Other figures in the compilation showed that 2,762, or 69 per cent, of the 1951 crossing accidents involved automobiles; 872, or 22 per cent, involved trucks; and only 19, or 0.48 per cent, involved buses. The frequency rates for these accidents were 4.13 per million train-miles of Class I railroads (excluding switching and terminal companies) and 71.2 per million motor vehicle registrations. Comparable figures for 1950 were 4.19 and 75.4.

Motor vehicles ran into the sides of trains in nearly one third (32.29 per cent) of the 1951 crossing accidents involving motor vehicles. Sixty-nine per cent of these accidents occurred after dark, while 62 per cent of the accidents in which a motor vehicle was struck by a train occurred in daylight.

As has been the case for several years, December was the 1951 month in which the greatest number of crossing accidents occurred. Saturday was the day on which most occurred, while the most hazardous hour was from 6:00 p.m. to 6:59 p.m.

Thirty-six per cent of the 1951 accidents (the largest group in the classification, according to weather conditions) occurred under "the best natural lighting conditions — clear daylight." Speeds of motor vehicles were reported as "standing" or less than 20 m.p.h. in 34.5 per cent of the accidents, while another 32 per cent involved speeds between 20 and 49 m.p.h. Speeds of 60 m.p.h. and over were involved in 2.66 per cent of the accidents Speeds were not shown in reports covering 16.72 per cent of the accidents.

Former Staff Member Dies While Visiting At I.C.C.

Leroy S. Price, a former member of the Interstate Commerce Commission's staff, died of a heart attack while visiting the commission offices on the afternoon of June 24. At the time of his retirement in 1949, Mr. Price was assistant director of the Bureau of Accounts and Cost Finding. Just prior to his death he had participated in commission hearings involving the Norfolk Southern. He appeared as a witness for the railroad on June 20.

Second Road-Truck Test Scheduled for Fall

Construction of the test road to be used for the Highway Research Board's second project dealing with truck-weight and pavement-design problems is expected to be completed in September. The test road will be about half-way between Pocatello, Idaho, and

CAR SURPLUSES, SHORTAGES

Average daily freight car surpluses and shortages for the week ended June 21 were announced by the Association of American Railroads on June 26 as follows:

	Surplus	Shortage
Plain Box	11,932	1,647
Auto Box	154	0
Total Box	12,086	1,647
Gondola	6,509	345
Hopper	626	389
Covered Hopper	49	14
Stock	2,535	0
Flat	11	279
Refrigerator	2,050	4
Other	380	0
	24,246	2,678

Ogden, Utah, just north of the Utah-Idaho border.

Pretest traffic made up of empty trucks will be operated for about two weeks over the test road to condition the surface, and early in the fall eight tractor-semitrailers will be loaded with concrete blocks and test traffic started. The project was inaugurated by the Western Association of State Highway Officials. It is planned to continue the test traffic for six months, part this fall, until winter weather makes it impractical, and the balance in spring of 1953.

I.C.C. Suspends Official Lines' New P.&D. Charges

Division 2 of the Interstate Commerce Commission has suspended, from June 23 through January 22, 1953 the operation of tariffs whereby railroads in Official territory are seeking to extend their pick-up and delivery charges to all l.c.l. and any-quantity traffic moving between points in that territory. Such charges now apply on only part of that traffic.

The suspended tariffs were filed after the commission made an adverse report on a proposal of the Official lines to charge for pick-up and delivery services which they perform on l.c.l. and any-quantity shipments moving interterritorially. (*Railway Age*, April 7, page 129.) The commission's suspension order assigned the case (I.&S. No. 6013) for hearing at Chicago on September 8 before Examiner Witters.

Eastern Railroads File Baggage-Checking Tariffs

Eastern railroads have filed with the Interstate Commerce Commission tariffs calling for charges for handling baggage checked on passenger tickets. The baggage car rates, scheduled to be effective July 1, will be 50 cents for each trunk and 25 cents for each piece of hand luggage.

CONSTRUCTION

Alabama State Docks.—Grain elevator yard tracks are being constructed at a cost of $50,000. Additional tracks are also being constructed in connection with an expansion project at the bulk material handling plant. This project also involves an expenditure of $50,000. Both are expected to be complete by next September.

Chicago, Rock Island & Pacific-Atchinson, Topeka & Santa Fe.—The I.C.C. has upheld its March 25 order approving relocation of existing trackage owned by these two roads at Oklahoma City, Okla. The order was suspended while the commission studied protests and requests for public hearing from several property owners in the area. The protests have been dismissed and a hearing found "not warranted." The trackage rearrangement involves construction of about seven miles and abandonment of approximately 10 miles of rail line (*Railway Age*, April 7, page 138, and May 19, page 176).

Chicago, Rock Island & Pacific.—Work has begun on a $1 million diesel repair and servicing shop to replace the round house at 47th street on Chicago's south side. Part of the original round house has already been demolished and the remainder will be destroyed when the new building is completed. The new shop will be of steel frame and brick construction resembling in style the road's testing and research laboratory located nearby. The building will have six service tracks to accommodate 12 diesel units at one time. In addition, there will be a wheel storage track and a heavy repair track. All suburban locomotives and passenger locomotives operating in and out of Chicago will be serviced at the new shop.

From north to south the building is to be 268 feet long. It will have a depth of 197 feet. Within the main part of the building there will be a 76-ft. cross section occupied by offices and general shops. In addition there will be a storehouse wing, complete with loading docks, measuring 116 by 50 feet. The basement of the main building will house washrooms, showers and an employees' lunchroom.

The building was designed by T. J. Engle, engineer of buildings; W. W. C. Humphries, engineer-architect; and A. W. Charvat, assistant engineer of buildings. Current plans call for completion in January 1953.

Saint Paul Union Depot Company.—A $100,000 mail conveyor system is being installed under a contract awarded to the Standard Conveyor Company of North St. Paul, Minn. The system will include a 2,000-ft. belt 42 inches wide that will operate at a speed of 100 feet per minute. The conveyor belt will transfer mail in bags from the train platform, where they are unloaded directly from car to belt, to the mail room on the lower level. The belt will convey mail either to a sorting platform for outbound loading on other trains or directly to the Post Office belt conveyor system. It is expected the belt will be in operation about November 1.

CLIMAXING FOUR WEEKS of intensive work, Union Pacific forces spread ballast atop a large earth fill that has put the Missouri river back into its regular channel. The railroad line and a U. S. highway were completely destroyed at this point near Elwood, Kan., during the April floods. The state of Kansas and the UP joined forces to repair the damage at a cost of $150,000—45 per cent of which was borne by the railroad. Approximately 160,000 cu. yd. of earth were moved to form this earthen dike across the newly cut channel. The dike is 660 feet long and 78 feet across at the top and was built in the channel through which water ranged from 10 to 31 feet deep, according to engineers' reports. A portion of the destroyed track is visible in the background (arrow).

SUPPLY TRADE

A.C.F. Directors Vote 10% Stock Dividend

Directors of the American Car & Foundry Co. have declared a 10 per cent stock dividend on the firm's common stock, payable September 25 to shareholders of record September 25. The dividend is subject to approval by stockholders at the annual meeting next August 28 of a proposal to change the authorized common stock from 600,000 no-par-value shares to 1,000,000 shares of $25 par value each. Of the new shares, 60,000 would be used to pay the stock dividend and the remaining 340,000 would be available for acquisition of properties or companies as part of A.C.F.'s diversification program, or for other purposes. A cash dividend of $3 a share also was declared on the presently outstanding common stock, payable in four installments of 75 cents each.

Charles G. Crossland has been appointed purchasing agent for the **Greenville Steel Car Company.**

The majority stock of the **Mosebach Electric & Supply Co.,** Pittsburgh, has been acquired by **R. Hampton** and **L. H. Hampton,** concurrently with the resignation of **Mrs. Karl J. Mosebach,** co-founder of the firm, as treasurer and chairman of the board after 27 years of service. **R. Hampton,** president, has announced that the company is expanding the number of items manufactured for railroads, mines and mills. The new products will include various types of signal rail bonds, resistors and associated electrical items for railroads and overhead trolley systems.

The **Kewanee Boiler Corporation** and the **Ross Heater & Manufacturing Co.,** divisions of the **American Radiator & Standard Sanitary Corporation,** have combined to form a new company, the **Kewanee-Ross Corporation, Charles H. Currier,** formerly president of Ross Heater has been named chairman of the board of Kewanee-Ross and **W. Bradford Russell,** formerly president of Kewanee Boiler, is president of the new firm. Both units of Kewanee-Ross will continue to operate as before, maintaining their respective plant locations, sales offices and representatives.

George C. Wilder, formerly vice-president and assistant general manager of the **Macwhyte Company,** has been elected president. Mr. Wilder has been with the company since 1938.

Howard F. Park, Jr., whose appointment as manager of sales for the **General Steel Castings Corporation** was announced in last week's *Railway Age*, page 90, joined the company in 1942, after several years with the Western Electric Company and the Budd Company. He was in charge of the purchasing department until 1945, when he was named assistant to vice-president—sales. Later he became assistant district manager of the eastern

Howard F. Park, Jr.

sales office, and in 1950 was appointed district manager—sales.

Lawrence P. White, whose appointment as district manager—sales, at the eastern district sales office, also was announced in last week's issue, joined General Steel Castings in 1946

Lawrence P. White

as special apprentice and progressed through various departments of the company in a training program. He entered the sales department in 1947 and in 1950 became manager of foreign sales.

H. C. Bughman, Jr. has been elected chairman of the board, **W. F. McCabe** president and **Clarence Abitz,** vice-president, of the **Union Spring & Manufacturing Co.**

Macdonald Goodwin has been appointed regional sales manager of the railway equipment division of the **Bogue Electric Manufacturing Company,** with headquarters at Washington, D. C. He will represent the firm to railroads in the southeast and middle Atlantic states. **C. Earl Healey** has been appointed staff assistant to the president of the division and **Sylvain Garnett** has been appointed staff assistant to John A. Herbst, vice-president in charge of engineering for Bogue Electric. Mr. Healey and Mr. Herbst will maintain headquarters at the general offices in Paterson, N. J.

Gilbert J. Parr, former chief of the Cost Section, Bureau of Accounts and Cost Finding, Interstate Commerce Commission, has entered private practice as a transportation consultant at Washington, D. C.

Weaver E. Falberg, assistant manager of the alloy steel division of **Joseph T. Ryerson & Son,** has been appointed manager of the division, to succeed **John W. Queen,** who has been given special administrative duties while awaiting re-assignment in the organization.

Willis L. Campbell has been appointed vice-president and assistant to the president of the **Georgia-Pacific Plywood Company.** He formerly was vice-president and treasurer of the General Insurance Company of America, at Seattle.

F. W. Dickerson has been appointed manager, telephone sales, for the **Graybar Electric Company,** succeeding **J. B. Long,** who has retired after more than 32 years of service. **E. F. Haviland** has been appointed assistant manager, telephone sales.

OBITUARY

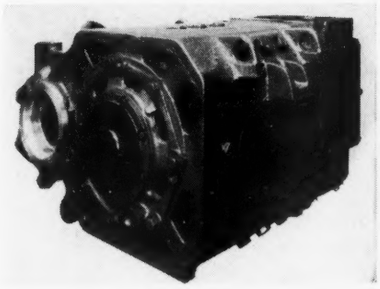
Donald R. Royal, special representative of the railway service division of Oakite Products, Inc., at Atlanta, Ga., died recently in Memphis, Tenn. Before joining the Oakite organization in 1948 he was general foreman of the locomotive department of the Illinois Central at Centralia, Ill.

CAR SERVICE

I.C.C. Service Order No. 865, which imposes super-demurrage charges up to $20 per day, has been modified by Amendments 28 and 29. Amendment No. 28 set back the order's expiration date from June 30 to December 31. Amendment No. 29 continued in effect (also until December 31) provisions which suspend the order's applicability to all cars except gondolas and flats.

Actually, Service Order No. 865 has been suspended in its entirety since June 3, the suspension having been one of the actions taken by the commission to meet conditions arising as a result of the strike in the steel industry. When this issue went to press, the suspension order (No. 865-C) was scheduled to expire July 1.

NEW and IMPROVED PRODUCTS of the MANUFACTURERS



Traction Motor for Diesel-Electrics

Designated as Form GE752E, a new traction motor for diesel-electric locomotives has been announced by the General Electric Company, Erie, Pa. It includes several improvements in the present GE752.

The pinion-end armature head has been redesigned to make it sturdier and to permit easier cleaning of all armature ventilating holes. A keyless armature shaft has been used to give greater strength and to permit more accurate line-up on the commutator and armature core, a feature that simplifies commutator repairs. Improved varnish treatment of the armature gives a smoother surface which is easier to keep clean.

Triple-deck banding of the armature, which has already proved successful in service, gives added protection against damage from excessive motor speed during wheel slip. The armature bearing caps are equipped for sealed grease lubrication eliminating the need for grease fittings. This refinement eliminates the need of adding lubricants between overhauls.

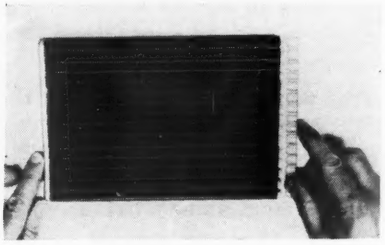
Nose wear-plates are easier to apply because they are now welded instead of riveted to the brackets. Oil waste and spillage on the axle linings have been reduced by an oil return groove.

Heavy Duty Storage Battery

The Electric Storage Battery Company, Philadelphia, has announced that the life of its Exide Ironclad industrial storage batteries used for railway, motive power and other heavy duty service will be prolonged by six outstanding improvements, including a new silver alloy grid metal and a non-corroding permanent positive-plate tube sealer.

Corrosion of the positive-plate grid is one of the principal causes of battery failure, and the manufacturer states that the introduction of a new alloy, Silvium, in the construction of the positive-plate grid of the improved Exide-Ironclad battery, reduces the corrosion factor and assures a longer positive grid life. Silvium is an alloy of silver, lead and other components and it is highly resistant to corrosion.

Another cause of curtailed battery life, which has always plagued storage battery manufacturers, is the loss of the active material from the positive plate. When it becomes sediment in the bottom of the cell, it represents lost capacity and reduction in battery life. There also is the threat of possible trouble from short circuits within the battery by an accumulation of loose active material.



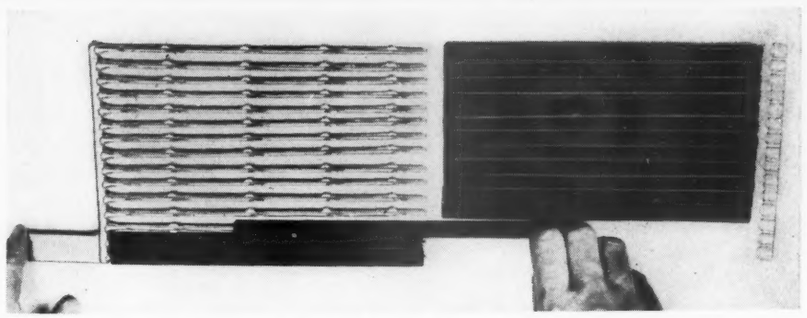
After packing active material into slotted hard rubber tubes, the polyethylene bottom bar is put on so that each tube is sealed by its individual plug.

The Exide grid is made up of metal core rods which are inserted in slotted hard rubber tubes. Active material is then packed into the tubes surrounding the rods. The slots in the tube permit free access of the electrolyte to the active material, but they are fine enough to prevent it from washing out.

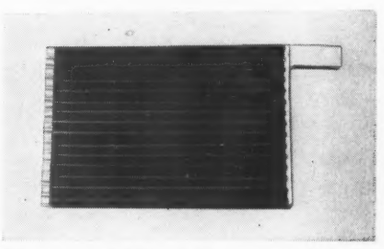
The bottoms of the tubes were formerly sealed with an alloy bar. After considerable service life, however, corrosive action on this metal bar closing the tube bottoms would eventually breach the seal. Active material would then seep out and be deposited in the bottom of the container. Molded polyethylene is now used to replace the metal bar and seal in the tubes at the bottom against loss of active material. The new tube sealer is non-corroding, and is unaffected by the electrolyte or electrolytic action. It is pointed out that high capacity is thus retained for a longer working life because the active material is held in place in the tube.

In addition, polyethylene is an insulating material. Extending across the entire bottom of the plate, it acts as a safeguard against shorting between plates. The elimination of metal at the bottom of the positive plates, it is claimed, assures better negative plate performance because of low local action and the reduction or elimination of shedding of active material.

The other improvements in the Exide-Ironclad battery are a new homogeneous sealing compound; seamless shock-proof jar; unbreakable plastic vent plugs; and corrosion and impact resistant plastic steel tray coating.

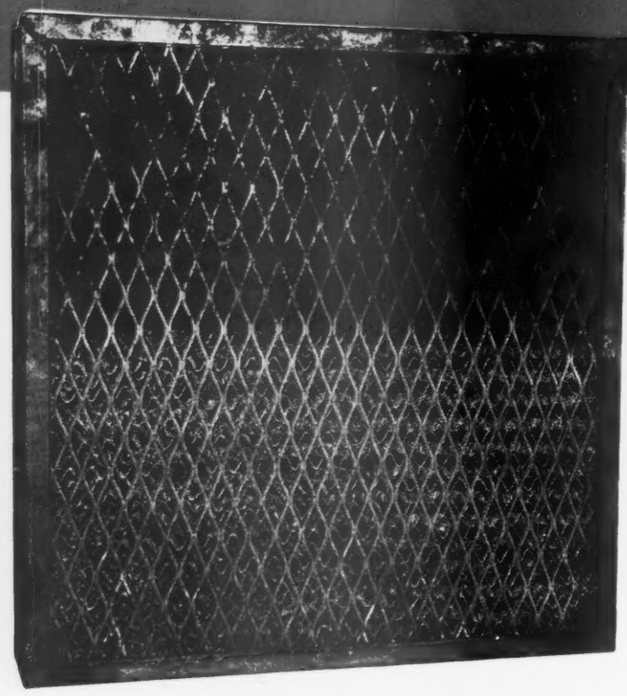


Silvium metal grid core rods being inserted into slotted hard rubber tubes.



The assembled positive plate of the improved Exide-Ironclad battery for industrial use.

You can clean FILTERS easier with Oakite materials



ABOVE . . . Diesel Engine Air Filter, Doughnut Type
AT LEFT . . . Engine Room Air Filter, Flat Type

You can see the improved results you get!

IN the unretouched photos above, you can see the big difference between BEFORE and AFTER cleaning of these filters. They are the same filters that were displayed at the Railroad Show in Atlantic City where you could inspect them and see the difference in results that Oakite filter cleaning provides.

BUT the best way is to make tests in your own shops. Then you can actully see the big difference Oakite cleaning makes on your own filters. Whether they are air filters from coaches, air intake filters on Diesel engines, fuel or lube oil filters, let the Oakite Railway Service Representative in your locality demonstrate the ease, the thoroughness and economy of filter cleaning with specialized Oakite materials. Write today. There is no obligation.

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OAKITE
RAILWAY SERVICE DIVISION

THE RAILROADS' TOUGHEST HANDICAP

It is strange—in all the enjoyment there is of the popular pastime of discussing the difficulties of the railroads—that hardly anyone ever mentions what is really the toughest handicap of all.

Can there be any question that this greatest of all obstacles in the path of the industry's easy and rapid adaptation to changing conditions is the fact that there are relatively few things in the way of important innovations that any individual railroad can undertake, without the collaboration of one or more other railroads—usually more? No other industry has so much organizational machinery as the railroads for securing intra-industry collaboration—but in no other large industry is this machinery so imperatively essential.

If General Motors wants to introduce technological improvements in its automobiles, it does not, first, have to persuade Ford and Chrysler that they, too, should accept these same changes. Similarly with changes in prices or merchandising methods—Marshall Field's does not have to consult with Macy's or Filene's. On the railroads, however, rolling stock has to be acceptable in interchange—so what one railroad does to its rolling stock is of concern to all connecting railroads. And, since most movements are interline, no one railroad can introduce innovations in pricing or selling methods without the approval of its connections—plus, in most cases, that of the Interstate Commerce Commission.

If all the important things that all other industries can do on the initiative of individual companies were listed—and the question were then asked how the railroads would have to go about doing the same things, the chances are, in about nine out of ten of the items on the list, that an individual railroad would be found unable to act at all without the consent of its connections. In many cases, the I.C.C., also, would be found to possess the veto power.

It is a popular indoor sport with many business executives to criticize railroad managements as resistant to change in the direction of progress. The fact is that the constant progress the railroads persistently show is secured in defiance of an operational handicap which would probably bring most other industries to a complete standstill.

Experiment Easier in Other Industries

Even the other regulated industries are not handicapped in this respect as the railroads are. The gage of the railroads must be uniform to avoid intolerable expense in interchange—but "gage" is no problem in barge transportation or to the air lines; and the varying "gage" of electric current can be economically unified wherever current passes from one power system to another. Similarly with rates—most power companies enjoy a regional monopoly, so rate innovations (provided regulators do not object) can be tried out without the necessity for securing the approval of from a dozen to a hundred other power companies. This freedom of individual power companies to experiment with rates, incidentally, very likely explains why the power industry has had more success in adapting its rate structure to meet modern competitive conditions than the railroads have.

The foregoing is not set down with the purpose of giving the railroad industry an "alibi." But if a fellow with hobbles on his feet doesn't come in first in a race, it is just plain blindness for a lot of people to criticize him as an incompetent athlete or to slander him by saying he didn't even try to run—or for the athlete himself to half-believe that the criticism may have some truth in it, as some railroad men occasionally do.

In the case of the railroads, the handicap of not being able to act freely without intercompany agreement is a burden that has to be accepted and lived with. It is a price the industry has to pay in order to be a national transportation system—moving goods from one corner

of the continent to the opposite corner without transfer of lading. The advantage is worth the price—but that's no reason for not recognizing at all times that the price is a high one; and that everybody who enjoys the advantage (which means all inhabitants of North America, and not just railroaders) ought to do everything possible to bring this price down by facilitating cooperative action by the railroads in every possible way. A few suggestions occur which might be helpful, as for example:

1. Get more discussion of this handicap among railroad men, shippers, and the literate public—in obedience to the principle that the first step in the cure or control of a physical disability is an accurate diagnosis.

2. Instill in all officers who have the authority to vote on mandatory standards the conviction that (a) they must vote in the interest of the industry as a whole and not for the immediate self-interest of their own companies; and that (b) it is just as much their responsibility to give promising innovations a chance as to put a brake on too quick acceptance of those which hold little hope for a reward in proportion to the probable outlay. When any innovation is proposed by railroad men of recognized competence and responsibility, the burden of proof should rest on those who would refuse to give the proposal an opportunity for, at least, an honest experiment.

Other Remedial Measures

3. Help the associations and other parts of the collaborative mechanism to improve their performance, instead of being content with belaboring them for their failures and shortcomings.

4. Recognizing the peculiar difficulties of getting innovations in many aspects of railroading, managements should consider taking adequate steps to minimize this handicap by giving extraordinary help and encouragement to their staff people whose job it is to turn up proposals for improved methods.

5. "Idea men" ought to be indoctrinated with the understanding that, unless they are willing to master the art of salesmanship, they are not worth their pay, however brilliant their ideas may be, inherently. It seems to be the curse of many competent "idea men" that they are not only incompetent at selling their wares, but are even contemptuous of sales effort or skill. If one looks around at the many great improvements the railroads have made and are making, usually a high-powered salesman will be found lurking in the neighborhood. Where an idea doesn't get adopted but looks as good as some that do, the unsuccessful idea will frequently be found in the custody of some brilliant and conscientious fellow who insists on talking over other people's heads, or whose notion of selling something is, first, to denounce or ridicule his hearers for their inherent stupidity. Commodities are not sold by that technique, and ideas aren't either. For the future welfare of the industry, management ought to see to it that every "idea man" who is short on sales ability is put in the custody of a sympathetic superior who has this talent.

The writer of these lines could give examples and name names to illustrate the points mentioned in the foregoing, but he places himself under the restraint of the Christian virtue known as prudence.

MULTI-PURPOSE DAMS— MONEY OVER THE SPILLWAY

Do the expensive dams built and contemplated by the federal government for navigation and electric power, as well as flood control, actually "control" floods —the main purpose for which they exist? Or do they aggravate floods?

In the extended area of the Missouri River valley these questions are of great importance to every one. They are of particular interest to the railroads in this area because the crippling and far-reaching effects of floods must be paid for out of revenues. The "emergency grants" are not available for railroad relief.

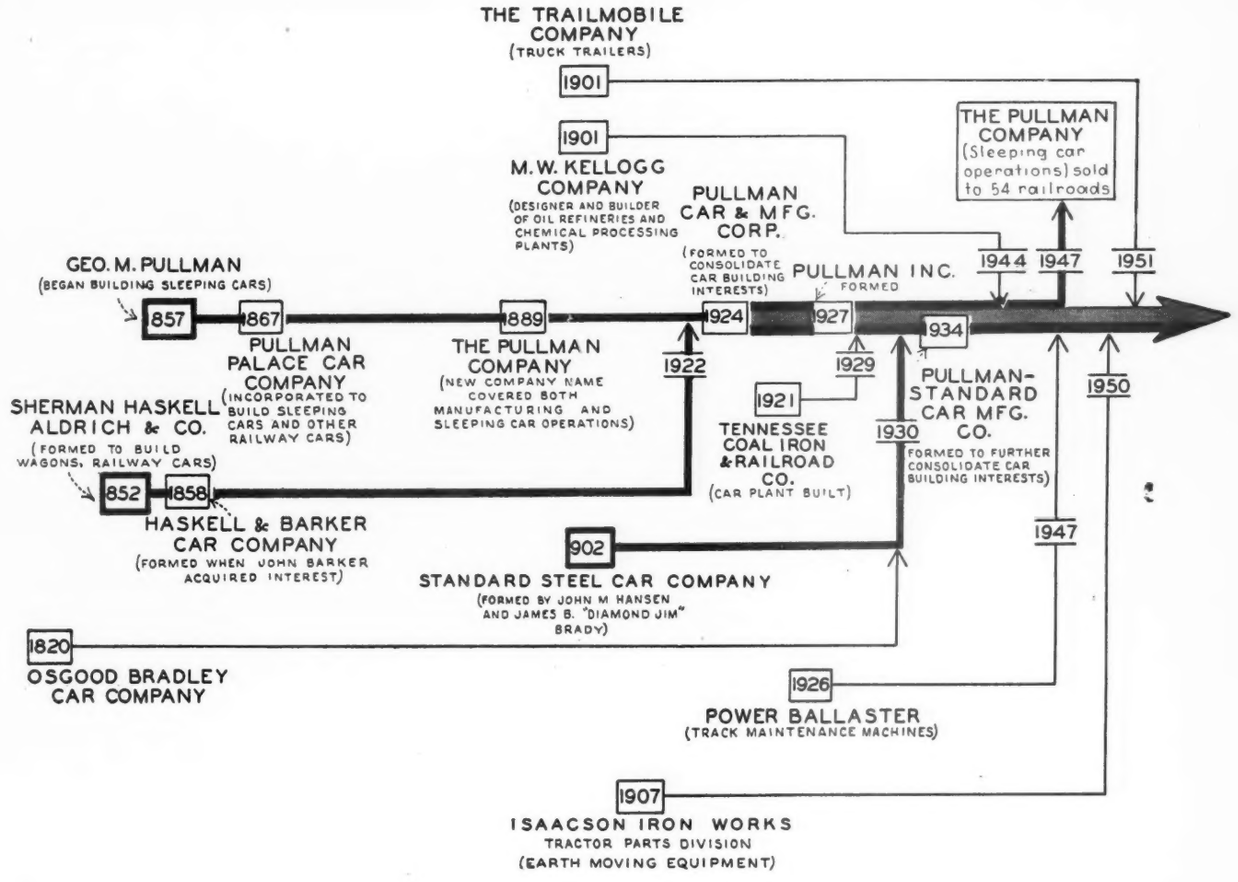
The Administration and the U. S. Army Engineers (aided and abetted by pork-barrelling congressmen) have been using the recent floods to "pressure through" an alleged "flood control project" involving 110 dams for the Missouri River valley.

The Minneapolis Star—a newspaper fully acquainted with the need for and the value of effective flood control —has commenced campaigning against the project. It points out that "flood control dams" specifically designed and built for the storage and gradual dissipation of excess run-off waters (the cause of floods) have worked well in several parts of the country.

But the government's plans for the Missouri River basin don't contemplate such a course. Instead, the government proposes huge multiple dams which—as the Star puts it—"are supposed to do more tricks than a circus dog: generate power, irrigate land, provide fishing, promote navigation and stop floods. Evidence has been accumulating that such expensive structures do none of these things too well."

Such a system of dams has already been built on the upper Mississippi, north of Keokuk, Iowa. As every railroad man in the area knows, the water must be kept high behind these dams at all times in order to maintain a 9-foot navigation channel for use by river boats, and to keep a sufficient "head" for hydroelectric power. As a result, these dams are actually able to absorb and store little of the excess run-off water.

The government ought to make up its mind which of its antagonistic objectives regarding the rivers it wants to pursue. It's never going to stop floods as long as power and navigation are so preponderant in its planning.



1952—A Year of Significance for Pullman-Standard

It marks the centennial of one key plant, 50th anniversary of another

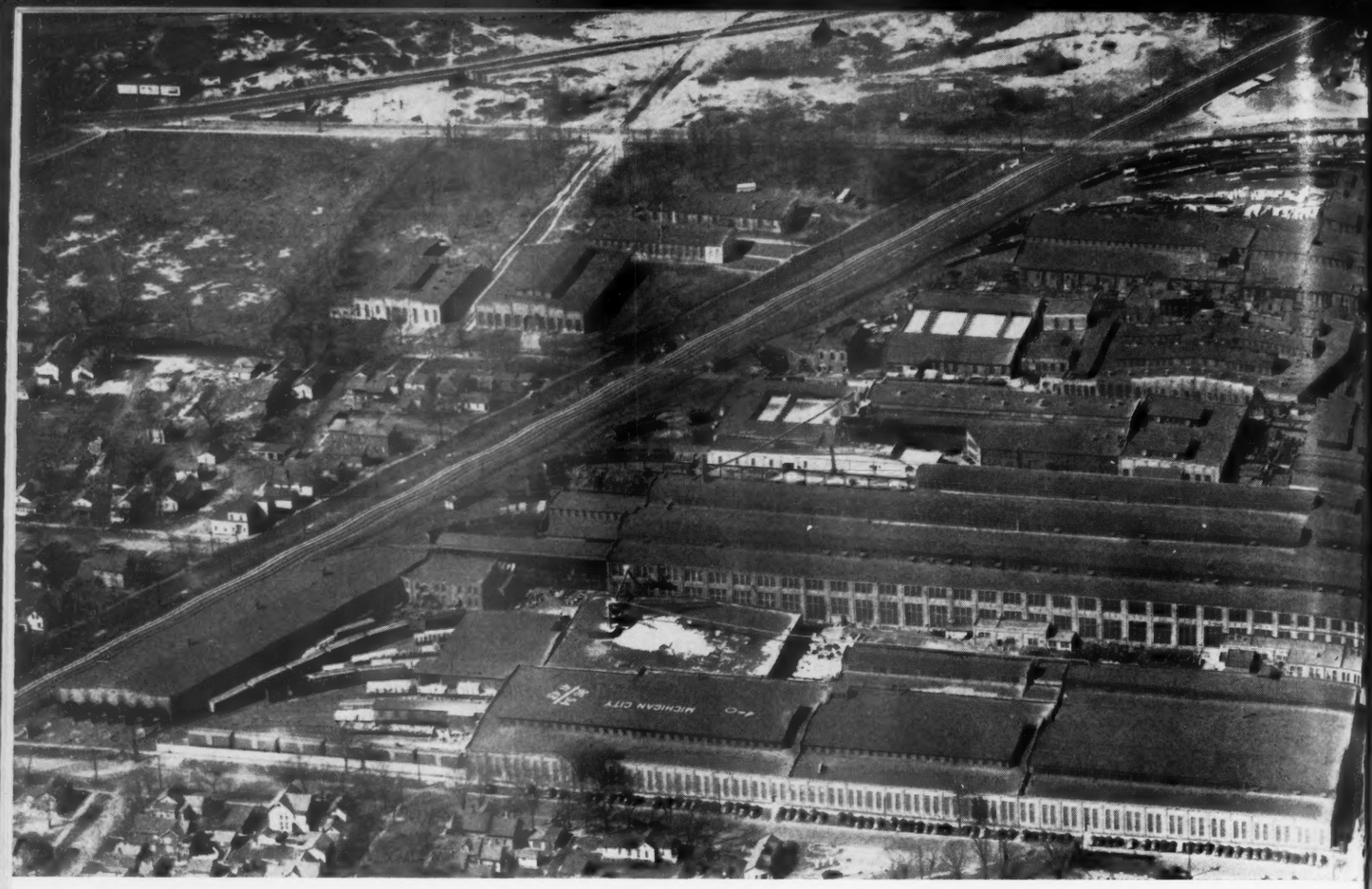
As may be seen by the above chart, the complex network of industrial enterprise that has come to bear the name of George M. Pullman actually predates that famous gentleman's own entry into the railway supply industry.

The nation itself was little more than an infant when Osgood Bradley, a carriage maker of Worcester, Mass., first entered business for himself, in rented factory quarters.

Within a decade he was at work building cars for some of America's first railway lines at a price (according to surviving records) of $1,000 for a typical passenger car!

But the significance of 1952 to the Pullman-Standard Car Manufacturing Company lies not with Osgood Bradley or the car-building organization he founded. Instead it lies with three men named John, whose contributions to the railroad industry are today little known or understood.

In the pages following, *Railway Age* presents a short history of these men—John Barker, and his son John H. Barker, of Michigan City, Ind., and John Hansen of Butler, Pa.—and with this history, a picture of how their descendant organizations (100 and 50 years old respectively) continue to serve the railroads under the name Pullman-Standard.



John Barker. "Fortunately, he was schooled for survival in hard times."

Pullman's Michigan City Plant Marks a Centennial of Car-Building

Mass production techniques were developed in John Barker's plant long before the auto industry was even dreamed of

Panic gripped the nation in 1837.

Only the westward trek for land brought any measure of financial relief, and the tiny port of Michigan City, Ind., somewhat removed from main pathways to the west, was in difficult straits.

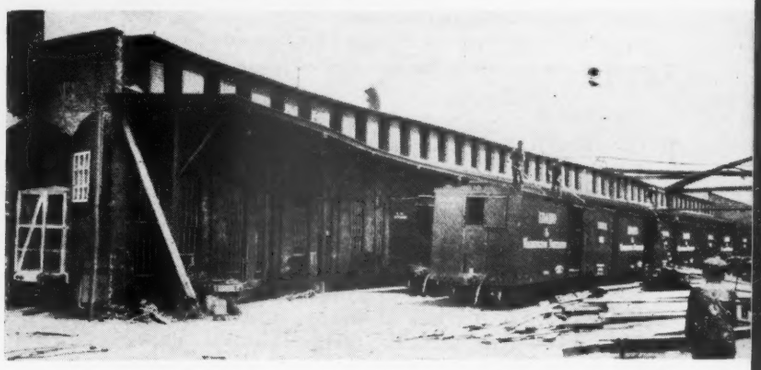
Yet to John Barker, the community looked good. Its harbor facilities were excellent for the vessels of that day, and in better times it was a major point for transshipment of lumber and grain.

He decided to settle there and soon entered the grain business. Knowing that his livelihood depended on the city's harbor facilities, he devoted much time toward their improvement, with the result that he gradually became more and more fascinated with transportation and less and less interested in the grain business.

In 1852, a small wagon factory was founded in the community by Dr. Mason C. Sherman, Frederick Haskell and Hiram Aldridge, all friends of John Barker. Soon the company—known as Sherman, Haskell, Aldridge & Co.—branched out into the building of freight and passenger cars for railroads. It was natural that John Barker, by now an ardent advocate of rail transportation, developed an eager interest in it. In 1855 he bought Dr. Sherman's share of the company and immediately added a new sideline to the business—agricultural machinery (his years in the grain business having left their mark).

But hard times struck again and the little company almost perished before it really got going. Fortunately, John Barker was schooled for survival in hard times and he managed to keep the concern alive on a bare handful of small orders. In those days the company employed about 60 men, who turned out just a few cars each month. Hiram Aldridge (who was Frederick Haskell's brother-in-law) finally became so discouraged

John H. Barker ("the younger John") is seen in this rare old picture conferring with Vice-President McBride. The calendar on the wall reads "Tuesday, June 25, 1907," placing the occasion about 4 years before Mr. Barker's death and Mr. McBride's election as president of Haskell & Barker.



The assembly line was "old stuff" at the Haskell & Baker plant when this picture was taken around the turn of the century. Note the unsheathed car in door of erecting shop at extreme left. Cars outside were built for the Idaho, Washington & Northern (now part of the Milwaukee).

that he sold his interest to his partners, who in 1858 renamed the company Haskell & Barker—a name that persists even today although the plant has actually been a part of the Pullman organization since 1922.

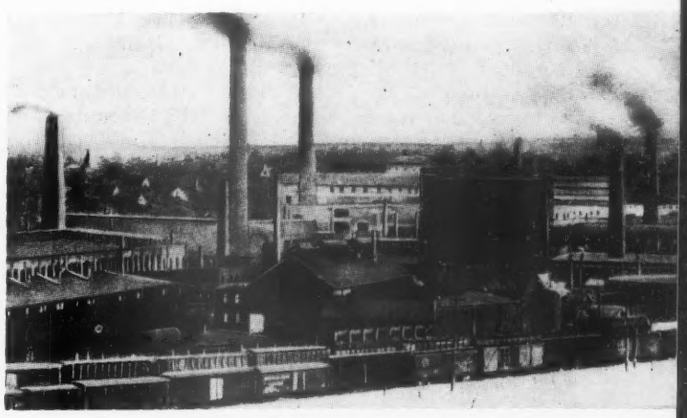
Slowly the nation dragged itself out of the depression and Haskell & Barker were rewarded with ever-increasing orders for railway cars until, in 1869, production in this phase of the business attained the rate of two cars a day.

The partnership was incorporated in 1869. Barker's son, John H. Barker, became general manager of the works and shortly thereafter the manufacture of wagons, railway passenger cars and agricultural machinery was discontinued entirely. Meanwhile, the elder Barker began devoting more and more time to matters of production management with the result that, by 1879, the company was able to produce no less than 1,000 freight cars a year!

It was in John Barker's quest for ways to increase production efficiency that the seeds of today's mass-production techniques were first sown. Popular thinking now ascribes invention of the assembly-line building to Henry Ford and the automobile industry. But John Barker had devised freight car assembly lines and was successfully operating them in 1889—long before the horseless carriage was anything more than a sparetime project for "crazy" mechanics.

In 1883, aging Frederick Haskell sold his interest in the corporation and in the changes that followed the younger Barker was elected president.

A bad fire in 1889 indirectly benefited the company by forcing the issue of complete adaptation of the assembly line technique. Many of the company's original shops, in which cars were being built from start to finish in fixed stalls, were completely destroyed. In the rebuilding that followed the fire the entire working of the



A wide variety of box cars appear in the foreground of this early postal card view of the Michigan City plant. The chimney smoke appears to have been touched onto the original by an artist to make the view more "dramatic."

plant was revised so that prefabricated parts and subassemblies all flowed toward a main production line. Finished freight cars soon began rolling off the end of this line regularly and production work became continuous—not stop-and-go as it had been under the old "stall" technique.

By the early 1900's, the plant had grown to become the largest in the entire state of Indiana. Its payroll came to more than $100,000 a month. And its annual output of 10,667 freight cars required a diet of some

"NOT BY ACCIDENT . . ."

"It is unusual for a manufacturing plant such as this to endure and be healthy at the end of 100 years.

"Many persons have influenced its growth and health during the past century. This organization and plant did not weather a wide variety of difficulties, disasters, troubles and even prosperity by accident.

"For 100 years it has received the loyal support of its community, its customers, its workmen and its owners. At times it was not easy for all or any of them to be helpful in its future, but the Haskell & Barker plant was situated well, produced well and was managed well. It has handed down to all of us not a heritage of ancient traditions but a healthy organization in its full strength.

"To those of us concerned with its future, we have a trust and a challenge to prove that we, in whatever part we play in any period of this plant's second century, are worthy successors to the group that made the first century so distinguished."

—Charles W. Bryan, Jr., president, Pullman-Standard Car Manufacturing Company.

100,000,000 board feet of lumber, 150,000 tons of iron and 75,000 tons of coal. Truly Haskell & Barker was the lifeblood of Michigan City and, in good measure, northern Indiana as well.

Good Employee Relations

From what had been but a handful of small buildings in 1852 a major industry had grown. There were no less than 45 buildings on the property. The plant itself was organized into seven basic departments including the foundries, the iron-working shops, the wood-working shops, erecting shops, paint shops, the pattern department and repair department. The wheel foundry was capable of turning out 450 wheels in a single day.

Michigan City grew and prospered, but unlike many "one industry" towns of that era it did not suffer from "industrial blight." John H. Barker made development of this lakeside community his prime hobby and his money was always available to further civic improvements and charitable institutions. He followed public affairs closely and because at that time Haskell & Barker virtually *was* Michigan City, his interests amounted to a 'round the clock program of employee relations. The town itself was attractively located in sharply rising wooded duneland and possessed unexcelled beaches and pleasure boating facilities. All of these factors added up to making Haskell & Barker an ideal place to work. As a result, the company's relations with employees were always most cordial and lifetime service with the company was more the rule than the exception.

John H. Barker died in 1911 and for a short time thereafter the post of president was held by the former vice-president, W. J. McBride. Since Mr. Barker was survived only by a daughter, management of the company fell to a board of trustees of which Mr. McBride was a member.

In 1916 the trustees sold the plant to a group of men headed by E. F. Carry, then vice-president of the American Car & Foundry Co. Mr. Carry was elected president of Haskell & Barker and C. A. Liddle and D. A. Crawford became vice-president and treasurer, respectively. Freight car orders continued to roll in and Mr. Carry enthusiastically picked up the program of civic and social activities where the younger Barker had left off.

After World War I, John S. Runnels, then president of the Pullman Company at Chicago, began consideration of his retirement and selection of his successor. Mr. Carry was offered the position in 1922 and he accepted—with the provision that he would be able to bring his staff of Haskell & Barker officers to Chicago with him. The proviso was accepted and since that time a considerable number of Michigan City men have followed their footsteps to become officers in the Pullman group of companies.

Haskell & Barker became a part of the Pullman Company and shortly thereafter Pullman rearranged its corporate structure to consolidate the car-building interests under the name "Pullman Car & Manufacturing Corp." while sleeping car operations continued under the "Pullman Company."

Mr. Crawford later became president of Pullman, Inc., top company in the group; Mr. Liddle was elected president of Pullman-Standard. Others who began their car-building careers at Haskell & Barker and later joined the staff of Pullman-Standard were Champ Carry, nephew of E. F. Carry, now president of Pullman, Inc., and chairman of the board of Pullman-Standard; Wallace N. Barker (nephew of John H. Barker), executive vice-president of Pullman-Standard; H. M. Dudley, vice-president in charge of finance and accounting of Pullman, Inc., and Pullman-Standard; Frank B. Baker, vice-president in charge of sales; F. O. Reemer, vice-president of sales at Birmingham, Ala.; Norman B. Johnson, vice-president in charge of manufacturing; E. Preston Calvert, director of public relations. Also in this category, but now retired, were Ellis W. Test, assistant to the president, and Paul J. Brand, director of safety.

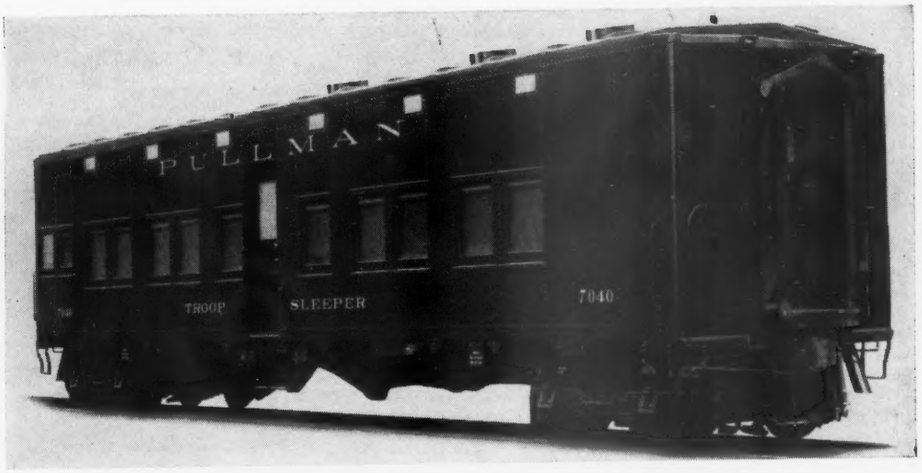
From Wood to Steel—and the PS-1

The earliest cars built by the old Sherman, Haskell, Aldridge & Co., were almost entirely of wood. As the years passed, metal (first iron and later steel) was employed for an ever greater portion of the total car until wood was finally relegated to a very limited number of functions, such as the lining of box cars and the flooring of flat cars and some gondolas.

The methods of working with steel changed too. Flame- and later arc-welding gradually displaced the rivet hammer in one of the most important revolutions of the car-building industry. Engineers of the Michigan City plant, when they were unable to find welding equipment adequate for the task at hand, designed and built their own. Today, some of the biggest welding jigs in the country are employed to build box cars at the Michigan City plant.

In 1930 alloy steels and other lightweight metals were employed in the construction of passenger cars. In 1931 the plant used these metals in the construction of five experimental welded lightweight hopper cars for the Chicago Great Western. In 1935 came introduction of the first lightweight box car—20 per cent lighter than the standard car, and the first lightweight steel sheathed refrigerator cars, weighing some 10,000 lb. less than the conventional "reefer." Both these new designs came out of the old Haskell & Barker plant.

A whole fleet of lightweight, high tensile, low alloy steel box cars—200 of them—were built in 1937 at Michigan City on order of three railroads (the Bessemer & Lake Erie, the Union Pacific and the Chicago Great Western). Less weight meant more cars per train—and more earnings per train-mile. These lightweight cars



Although they were never too popular with servicemen, the troop sleepers of World War II went a long way toward relieving the passenger "squeeze" of that day. This car belongs to the first lot of 1,200 built during 1943. Troop sleepers were the only passenger cars turned out by the Michigan City plant since 1869. Most of them have now been converted for mail, baggage and express service.

In addition to the original Haskell & Barker site in Michigan City, Pullman-Standard operates this second plant known as "South Yards" about a half mile distant. The buildings house the paint shop. Yards in the foreground are for lumber storage.

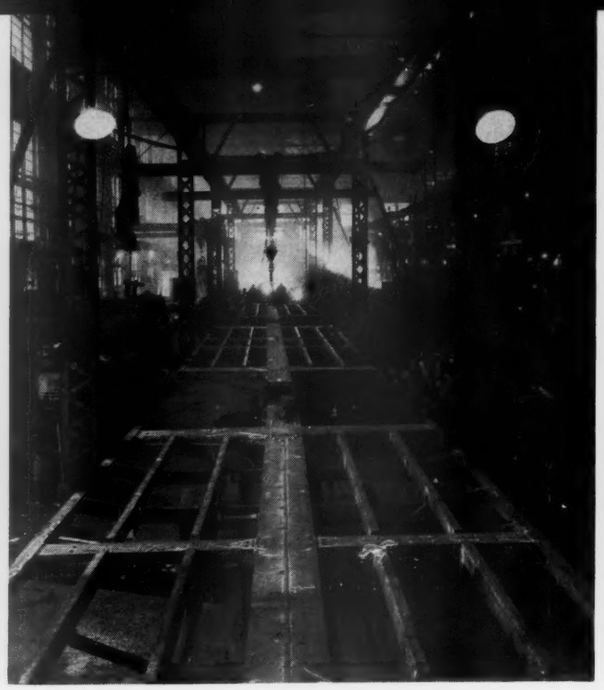
The pilot PS-1 box car had just emerged from the Michigan City shops when this picture was made June 12, 1947. The first car actually built on the PS-1 production line went to the Lehigh Valley that same month as LV 62000.

proved economically sound for the railroads. Orders from other roads followed and Pullman's earnings rose in proportion.

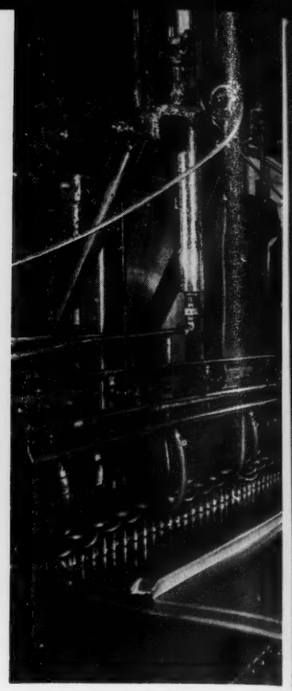
The story of Pullman-Standard's most recent contribution toward better freight transportation—the PS-1 box car—is relatively well known. The car was created in the Michigan City shops during 1947. It was revolutionary not so much in appearance as it was in conception, for it was a box car standardized from a production standpoint.

In the days of desperate box car shortages following World War II, the PS-1 box car fitted particularly well into a situation resulting from maximum demand and minimum manpower. And it continues to do so today.

A PS-1 box car begins to take shape as welders work on dolly-mounted underframe. The center sill, stringers and body bolster have already been welded together on a special welding jig which turns the whole assembly upside down to permit "down" welding at all points.

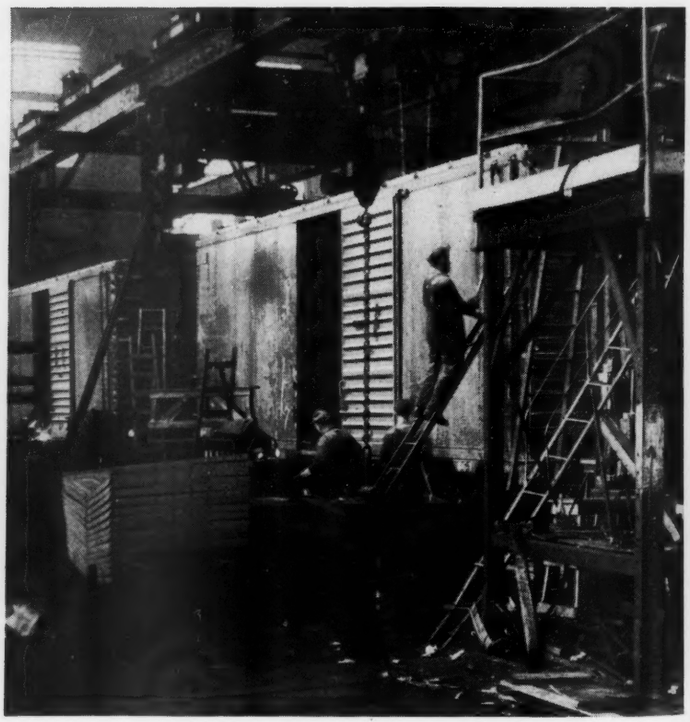


2 As underframes proceed down the "line," cross bearers and air brake equipment are added in turn. Underframe in foreground is virtually complete and will be taken off dolly and set over onto production track where trucks, sides, ends and roofs will be added.



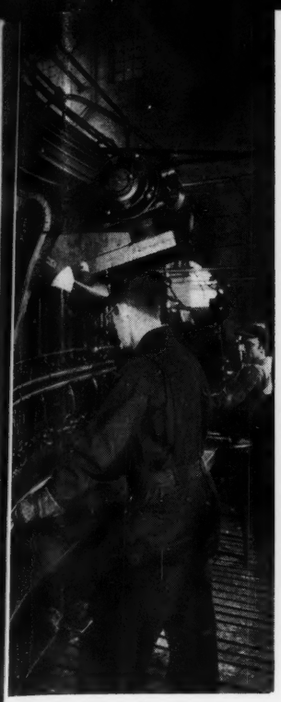
3 Meanwhile, subassembly production feeds to the main production track such elements as sides, ends and roof sheets. Here a hydro-

Production Today at Pu



6 This wheel boring machine helps give the wheel shop hours working balanced with rest of the plant, and has cut down the space needed by the shop. This unusual boring machine holds wheels stationary and both rough- and finish-cuts in one operation.

7 Near the end of the production track these cars are virtually complete except for application of wood lining and painting. Next they will go to the



matic spotwelding machine, designed by Pullman-Standard engineers, turns out door panels by welding entire sheets from top to bottom.

4 End sheets are formed in this huge hydraulic press using specially designed dies that make four-inch corrugations. Sheets are automatically fed into the press from a furnace directly behind it. Unit in foreground pulls out formed sheets and transports them for trimming.

5 A former production headache was the wheel and axle shop which generally had to work three shifts to supply needs of but one shift in the rest of the plant. This condition has been overcome by newly designed machines, such as this high-speed axle rougher.

at Pullman's Michigan City Plant

Perpetuates the principle, if not the substance, of John Barker's pioneer assembly lines

south yard, about a half mile distant from the main plant, for such final operations as shot-cleaning, painting and lettering.

8 Ready for the road, a fleet of Chicago & Eastern Illinois PS-1's, each bearing Pullman-Standard's special centennial emblem beneath the lower grab iron, await delivery to the Michigan Central on the Michigan City manufacturing plant's shipping tracks.

Back in 1902 fabulous "Diamond Jim" Brady walked off a job and into partnership with a quiet young engineer named John Hansen—Together they founded the Standard Steel Car Company, and some new concepts in the industry

John M. Hansen. His life: A constant search for speedier, less costly methods of manufacture of railway cars.

Another Pullman-Standard Anniversary

50 Years of Car-Building at Butler, Pa.

The first all-steel railway freight cars known to be built in America were two hoppers and a flat car ordered in 1895 from the Keystone Bridge Works of Pittsburgh, Pa., by the Carnegie Steel Company. Ostensibly, the cars were purchased to transport coal, ore and structural steel, but Carnegie's real purpose was to develop new uses for rolled steel—and the railway car-building field seemed to hold possibilities. Keystone fabricated the cars largely by hand methods out of such structural shapes and plates as were then available.

As these pioneer cars were being built at the Keystone works, a 28-year old engineer named John M. Hansen was working quietly for his employer, C. F. Schoen, on designs for all-steel hopper cars to be built—not out of structural shapes, but of pressed steel parts. The designs were patented in 1896 and within a year the Schoen Pressed Steel Car Company—of which John Hansen had become designing draftsman—had received a very impressive order from Carnegie. Altogether, 600 steel hopper cars were to be built. And 200 of them were to be based on John Hansen's own design using pressed steel.

The success of this first order established the company as one of significance in the car-building field. By 1899 John Hansen had become chief engineer and the company had shortened its name to simply the Pressed Steel Car Company.

Experience gained in working out the design and production of the new type cars had led John Hansen to the conclusion that rigidly standardized car designs could cut production costs and thus stimulate sales through lower prices. He harbored this idea until one day Pressed Steel's fabulous salesman, James B. "Diamond Jim" Brady, walked off the job in a huff. John

Hansen immediately approached him with the suggestion that they team up to form a new car-building company—the Standard Steel Car Company—with Hansen as designer and builder and Brady heading sales. The name of the company had been carefully chosen to reflect Hansen's idea and the new company would be dedicated to putting it in effect.

As it turned out, John Hansen had to borrow most of the capital necessary to launch the enterprise and he thus became its president. "Diamond Jim" became vice-president in charge of sales and this strange association of a quiet engineer and a "super" salesman proved highly successful, lasting until the latter's death in 1917.

The new company literally started from scratch. Land was found for a plant on the site of the old Butler (Pa.) fairgrounds. Early in 1902 ground-breaking ceremonies were held, and, immediately, work was begun on the shops and an office building, all designed by Hansen to permit building every freight car component right on the grounds. *Within 90 days of the ground-breaking, the plant was in full operation and had produced its first freight car!*

Orders began to roll in. With the plant in operation, John Hansen again turned to his standardization of car design and within a short time he obtained patents on a new freight car truck that became "standard" on all cars turned out of the plant.

Passenger car manufacture began in 1905 when the company produced its first all-steel units—two express cars and a mail car—for the Erie. Subsequent expansion of both the freight and passenger phases of the business then took the form of an entirely new plant completed at Hammond, Ind., in 1906. June of that year saw the first freight car roll out of this plant (it was a hopper for the Erie) and two years later the more complex passenger facilities had completed their "first" —an electric coach and trailer for the New Haven.

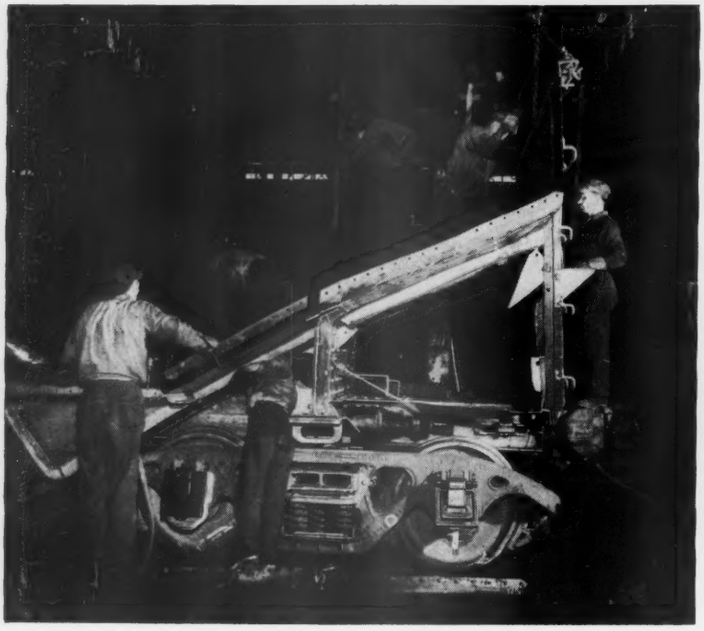
During the World War I era, both Standard Steel plants devoted a good portion of their facilities to war work. The Allies faced a serious problem in the freight car shortage of wartorn France and John Hansen solved it by establishing a complete car erection shop in the field just a few miles behind battle lines. It was during this era, too, that Standard Steel made its brief entry into the popular automobile field with the "Standard Eight" and the "Standard Six"—both built at the Butler plant. Later, this enterprise was sold the American Bantam Car Company which continued to produce automobiles in the same buildings until World War II.

John Hansen passed away in 1929 while still actively engaged in the affairs of his company. Just a few months later Edward F. Carry, president of the Pullman Car & Manufacturing Corp., also died and the two companies logically began consideration of a merger. Out of the negotiations that followed came the Pullman-Standard Car Manufacturing Company of today.

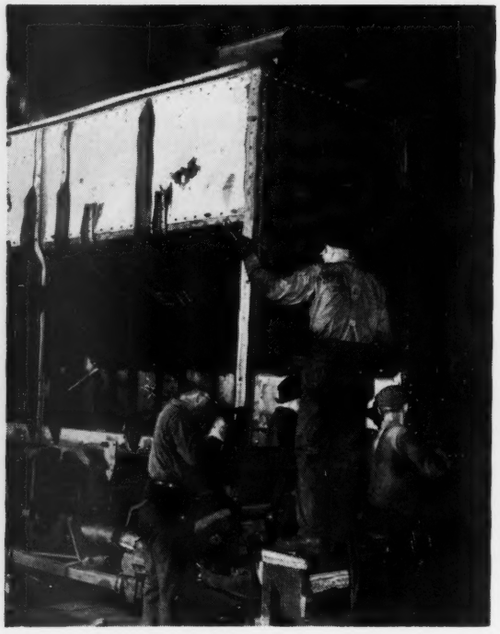
Production short cuts like those shown in these pictures would have delighted John Hansen.

1 Center sills for Bessemer & Lake Erie hopper cars are welded from "Z" bars on this Butler-designed inclined work rack called "bleachers." After each operation, sills are released to move down one position for next operation.

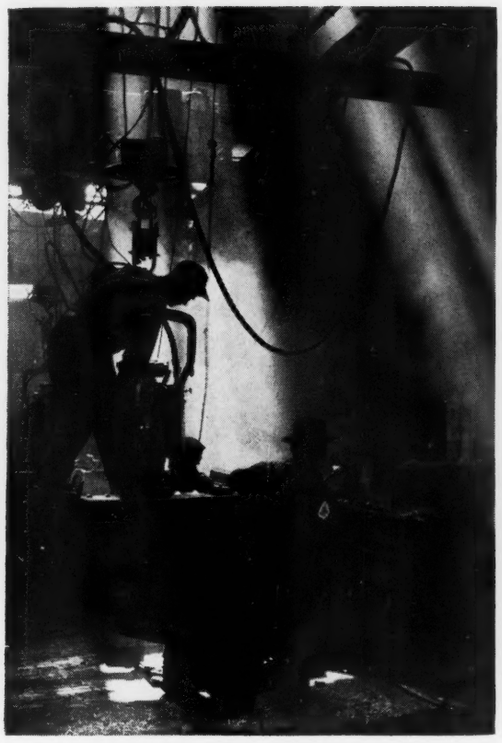
Building at Butler Today



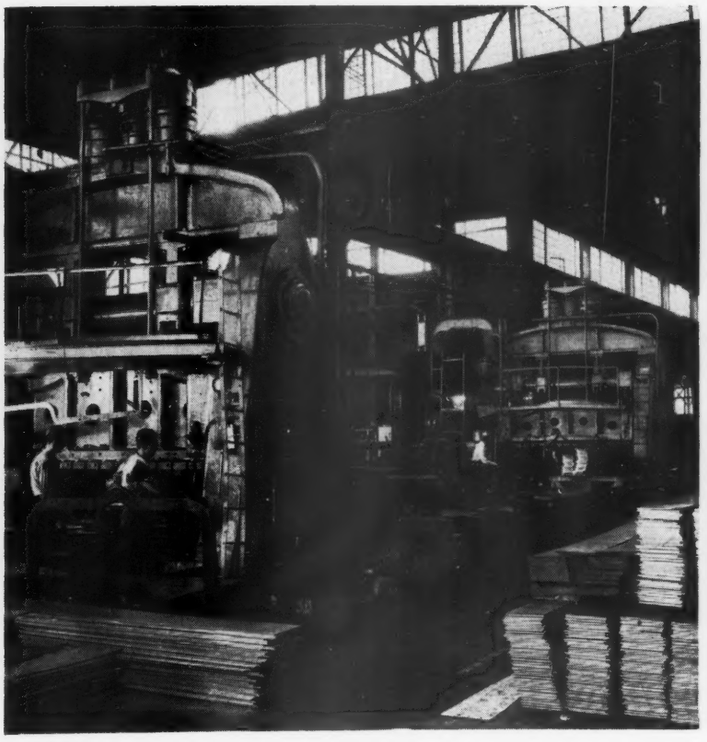
4 On the production track hopper ends and floor sheets are fitted into position for riveting together and to underframe. Underframe is complete with brake cylinder, brake rigging and draft gear and car body rides on its own heavy duty trucks.



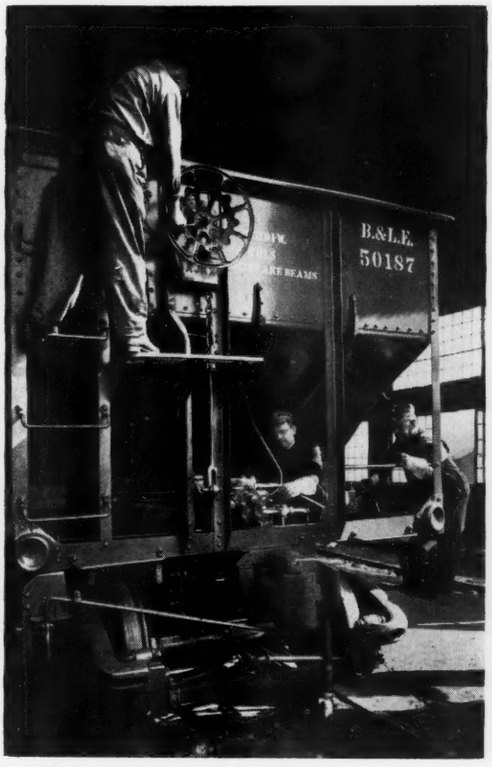
5 Next, the hopper car sides are applied. They are built in the construction department and brought to the production track in substantially completed state.



2 Bottom-plates are fastened to the bolster with this 30-ton bull-riveter. A jig holds the underframe upside down so that all riveting is done from a level plane.

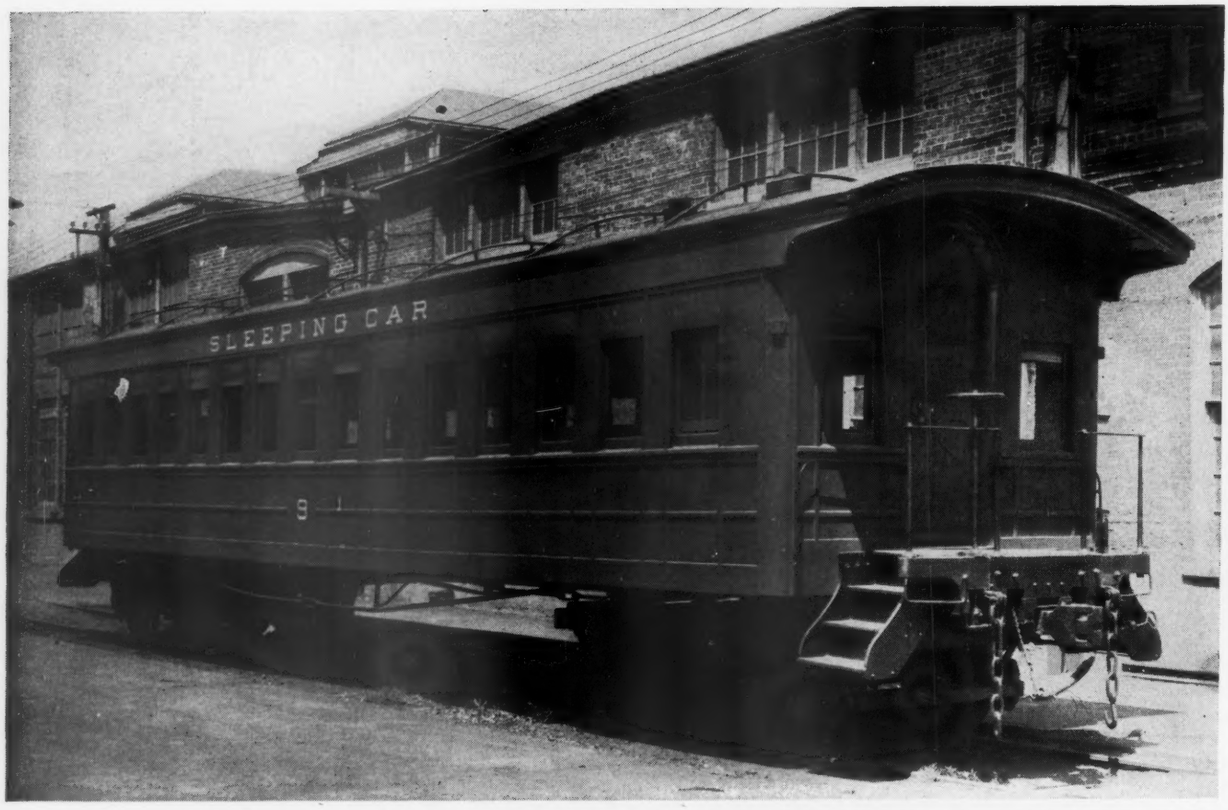


3 Floor sheets or cross ridges for hoppers are stamped out on 1,000-ton group punch machines, which, depending on the job at hand, work together as a unit or separately.



6 Coming off the erection track, cars go to the paint shop where they are cleaned of scale and grease, ready for the line where they are painted and lettered. Then . . .

7 . . . they are delivered to the railroad siding, completely tested—ready for regular heavy duty, high capacity main-line service.



Old Number 9 brought plush seats, sleeping berths and kerosene lamps into the travel picture in 1858.

Pullman's Place in Passenger Car-Building

George M. Pullman (1831-1897). "Customers are willing to pay for the best provided they get the worth of their money."

"We have studied . . . brought forth plans . . . and are now standing by." —Charles W. Bryan, Jr., president of Pullman-Standard.

During almost 100 years the art has evolved from Spartan simplicity through rococo to the streamliner—But what of its future?

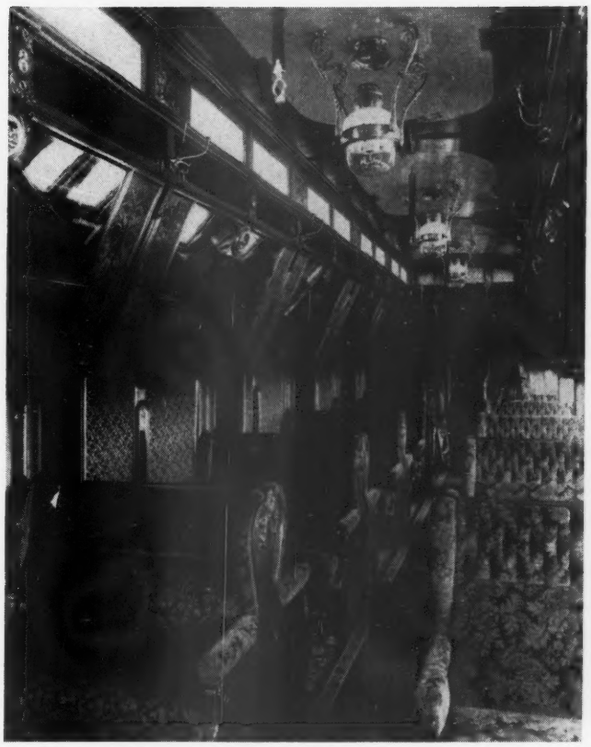
It is not possible to dwell at any length on accomplishments of the Pullman group of companies without reflecting upon their contribution to the passenger phase of the railroad industry.

When he was 22, George Mortimer Pullman, an Albion, N.Y., cabinet maker, made a "sleeping-car" trip from Buffalo, N.Y., to Westfield—a distance of 58 miles. Unable to sleep in the crude bunk, he spent most of the night thinking how the car might be improved. Five years later, in 1858, he found an opportunity to tackle the problem. With funds acquired from successful work in the contracting field, he set to work remodeling two Chicago & Alton (now GM&O) day coaches at Bloomington, Ill., with the help of a skilled wood-crafter named Leonard Seibert.

Something New in Luxury

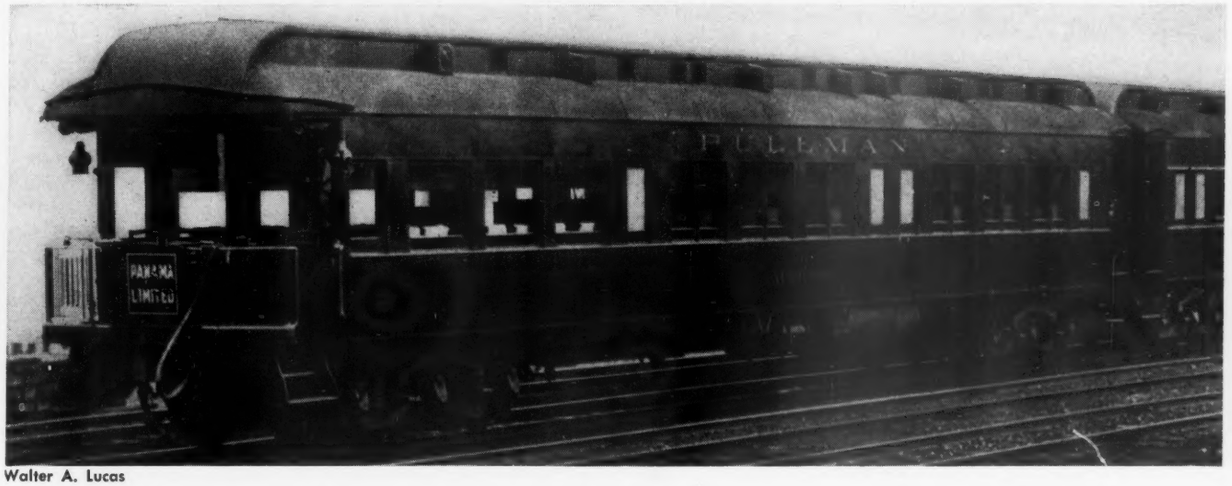
The cars emerged from their shop in the fall of that year with luxury features never before offered to railroad travelers. Each contained ten sections, two washrooms and a special locker for linen. Oil lamps supplanted candles, plush was used for upholstery and the berths featured soft mattresses and warm blankets. Costing a total of $2,000 to remodel, the cars were an instant hit on the Bloomington-Chicago run, although some of the passengers were timid about undressing and simply climbed into bed with their boots on!

Later Pullman built a sleeping car from the ground up at the then fantistic cost of $20,000—nearly 5 times



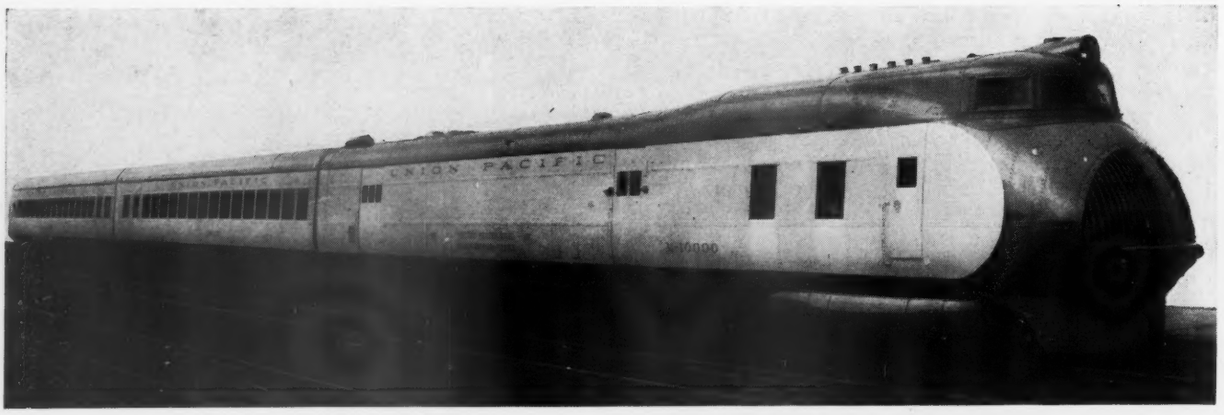
By the 1890's highly embellished woodwork, upper and lower berths and gas lamps symbolized travel luxury.

This full-vestibuled coach was turned out for the Chicago & North Western in September 1907.

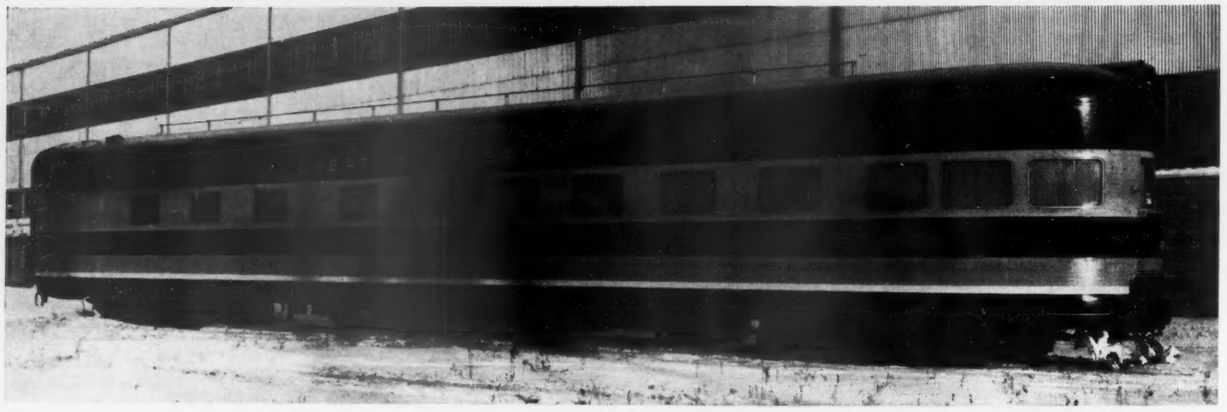


Walter A. Lucas

All steel construction ushered in an era of unparalleled travel safety. This lounge-observation was built in the twenties.



Pioneering the streamlined era— the Union Pacific's M-10,000, completed in February 1934.



Produced after World War II was an entire fleet of cars for the Great Northern's "Empire Builder" streamliners.

New horizons opened for the railroad traveler when dome cars were introduced in the "Train of Tomorrow" in 1948.

Typical of travel comfort today is this observation lounge car built for the Chesapeake & Ohio.

greater than any sleeping car built up to that time. To the spectator of that day this car was elaborate almost beyond belief. But to the railroad man, it was simply too high and wide for clearance of station platforms and bridges—and it seemed like more luxury than a traveler would be willing to pay for. The costly "Pioneer" seemed a failure. But the death of President Lincoln in April 1865 forced the issue of clearances. The "Pioneer," being the nation's most magnificent car, was selected for the funeral train and the C&A quickly altered its bridges and platforms to accommodate the "oversized" luxury car for its somber mission.

The "Pioneer" later proved that, even at a premium berth rate, it was far more popular with passengers than conventional "bunk" sleeping cars and before long the C&A replaced all the old type cars with new "Pullmans."

In the years that followed, Pullman's passenger car building gradually outgrew the capacity of the several shops which he acquired and in 1880 he built the famous car works and manufacturing town of Pullman, Ill., south of Chicago. Another natural outgrowth of the sleeping car revolution was that Pullman also undertook to operate the sleeping cars on a contract basis for a number of western railroads. As in his car-building work, Mr. Pullman made certain that this "hotel" service provided nothing but the very best—in keeping with his personal philosophy that "people are generally willing to pay for the best provided they get the worth of their money."

End of an Era?

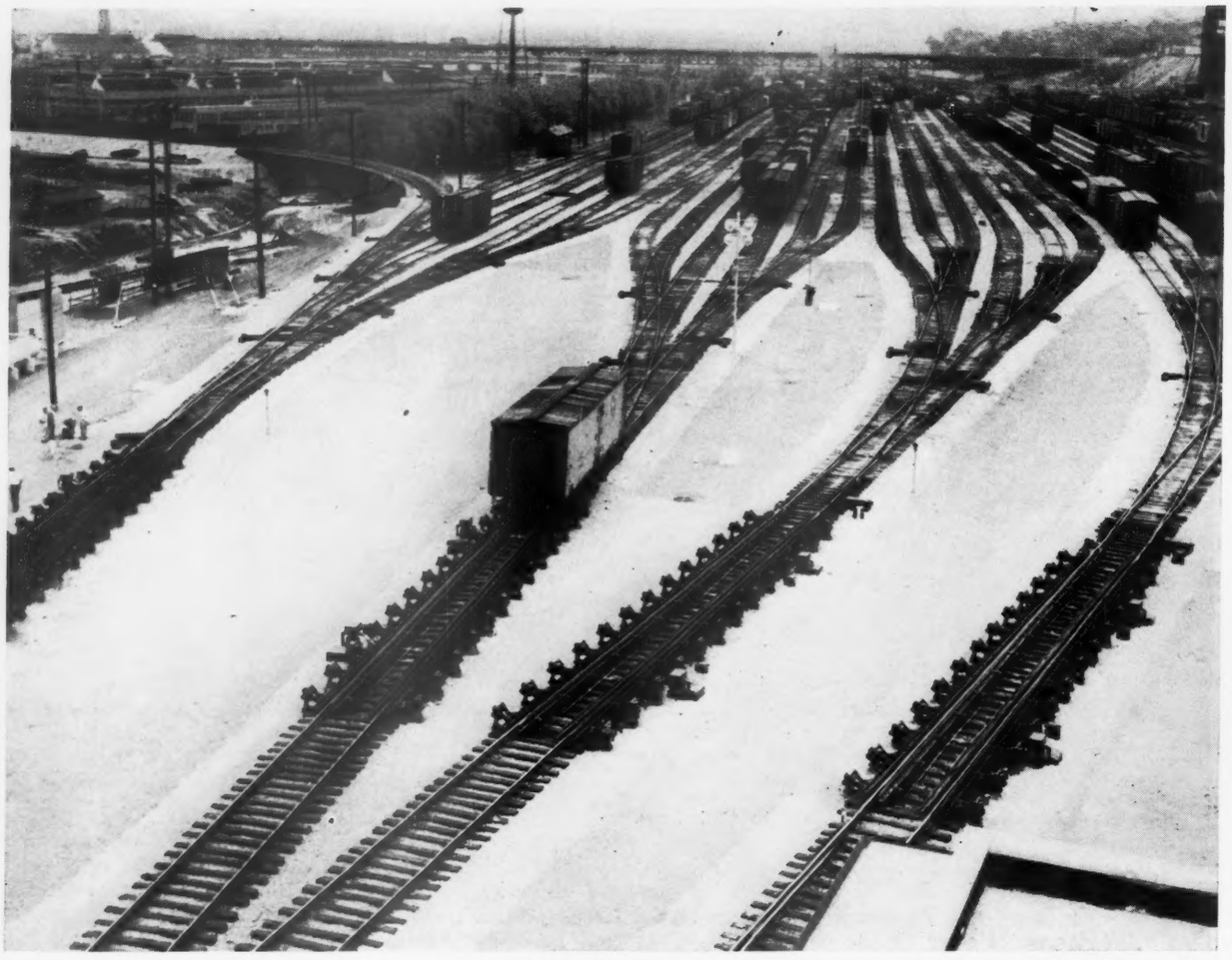
What subsequently happened to Mr. Pullman's combined business of building passenger cars and operating sleeping and parlor cars is depicted on the "genealogy" chart on page 43.

But today, after more than 80 years of building passenger cars, officers of Pullman-Standard are concerned over the future of this phase of the business. They are concerned not only with the company's internal problems, arising from the prolonged dearth of orders, but also with those which the railroad industry must face if present trends continue.

According to C. W. Bryan, Jr., the president of Pullman-Standard, railroad passenger business is now adjusting to a new economic level forced by the advent of the passenger automobile (which has eaten it away from the bottom) and the commercial airliner (which is gnawing from the top). He feels however, that there is little reason to believe that these new travel media between themselves will gobble up the entire railroad travel market. In his opinion the railroads will continue to require assistance from commercial car-builders capable not only of building passenger cars but also of supporting a program of research in this field.

At the moment there is a slight revival of interest by both domestic and foreign railroads in acquiring new passenger cars, but it is trifling in view of the effort which Pullman-Standard spent on passenger car research last year alone. "We have studied all phases of passenger service under actual operating conditions," Mr. Bryan told a *Railway Age* reporter, "and we have brought forth car designs that we feel would answer every major need—whether a road would seek the cheapest or the most luxurious. We have taken out more than 20 new patents on passenger car improvements. Now we are standing by. But we cannot retain our passenger research organization indefinitely when there is no response to its work. I hate to think of what it would mean to the railroads if we are forced to discontinue this activity."

Insofar as passenger car production is concerned, Mr. Bryan reported that limited facilities were still active at both the Chicago and Worcester plants. "But here, too, we are reluctantly tailoring down and turning such portions of our plants as are suitable over to defense work and to other phases of our business."



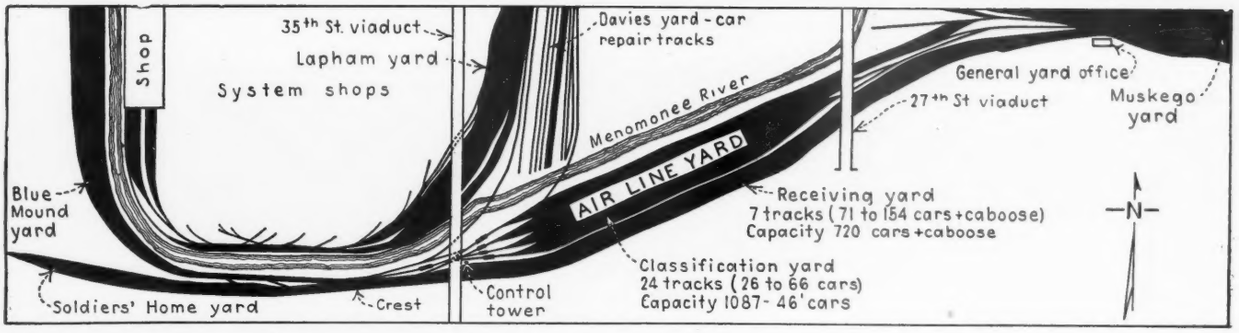
Looking east at the 24 classification tracks of the new CMSP&P Air Line yard at Milwaukee. The track curving away to the left and crossing a bridge over the Menomonee river carries bad-order cars into Davies repair yard. The eight long receiving tracks are partially shown at extreme right.

Milwaukee Modernizes Air Line Yard

Large revamping project at Milwaukee, designed to double the switching capacity, is completed three months ahead of schedule — Outstanding feature is retarder speed control

The capacity of the Air Line yard of the Milwaukee at Milwaukee, which was formerly 360 to 400 cars in an eight-hour shift, has been approximately doubled—to some 650 to 800 cars—as the result of a modernization project costing about $3 million, in which the facility was converted from a flat-switching to a retarder classification yard. The outstanding feature of the rebuilt yard is that it incorporates the first installation of retarder speed control which is discussed in detail in the following article in this issue. Another noteworthy feature is the speed of the reconstruction work while keeping the yard in switching service; the work was started in June 1951 and completed so the yard could be placed in full operation on June 1, 1952, three months earlier than the original scheduled date of completion.

The CMSP&P has a number of yards in Milwaukee, most of which are used as storage and receiving yards and for sorting cars moving to and from the industries in various districts. But Air Line yard is used as a receiving yard for trains arriving from the north and



Diagramatic sketch showing the general layout of Air Line yard after modernization. In general, cars are pushed out of Blue Mound yard to crest of grade, after which they roll by gravity into the classification tracks.

On the way to the crest of the grade, cars pass a dragging-equipment detector (background) and if any part of a car engages this device, the signals are caused to display stop. Journal boxes are oiled at the pits in the foreground.

The free-rolling car shown here has passed through the master retarder and is about to pass into the secondary retarder, where final rolling speed will be determined. Note control tower at left.

west as well as being the main yard for the classification of cars for outbound movement to the south and east. All outbound trains going in those directions, averaging 34 daily, are assembled there and at Muskego yard.

During recent years, the beer and other industrial traffic moving out of Milwaukee has increased substantially. Generally, the switching work could be adequately handled in Air Line yard on the first two days of the week, but by Tuesday night the traffic disgorged by the local industries began to pile up, reaching a peak on Friday night, thus creating congestion which backed up into outlying yards and usually was not cleared up until Sunday night. It was the practice to make a preliminary classification of cars from certain districts in the Muskego and Adams yards, culling out cars for particular destinations, but the majority of the cars were sent to Air Line yard for disposition or classification. Even with this expedient, however, frequent delays often occurred in getting cars made up into trains.

An aggravating feature of the old yard was the handling of bad-order cars. Such cars were formerly thrown into the Canal Yard district with other cars assigned to the railroad's shops at that point; this involved a circuitous route and considerable delay in getting them into the repair yard. When repaired, these cars were moved into the adjacent Lapham yard until such time as there was space available in the Air Line yard to receive them. This method of handling bad-order cars was necessitated by the arrangement of the old yard and caused additional delay to cars that were already behind schedule because of their condition.

Good News for Shippers

The Milwaukee was anxious to improve its service to shippers by classifying cars quicker and getting them made up into departing trains sooner. The number of tracks in Air Line yard could not be increased because it is located between a high bluff and established industries on its south side and the Menomonee river on the other. This led to the decision to use the same number of tracks more intensively by changing the facility from a flat-switching to a gravity-retarder yard and installing power switches and car retarders, floodlights, and radio and talk-back loudspeaker communication systems. This work has now been completed.

With the new yard arrangement it is expected that the additional switching capacity will enable peak loads up to 2,400 cars to be handled in a 24-hour period,

as compared with a former maximum of 1,200 cars, and with better service to shippers. Heretofore some cars had to be in Air Line yard from eight to ten hours before the scheduled departure of the train in which they were to be incorporated. With the rebuilt yard, it is expected that three hours or even less will be sufficient.

The new yard provides longer tracks (up to 120 cars) in the receiving yard, and the arrangement is such that some of the tracks in this yard also can be used for departure purposes. This results in less use of tracks in the classification yard as departure tracks, permitting more refinements in classification. Under the old arrangement, every outbound train over 75 cars in length had to be doubled.

Will Effect Substantial Savings

All of the foregoing improvements in service are good news for shippers. But the railroad will likewise derive benefits. It is expected that substantial economies will be effected through reduced per diem charges.

Because of the greater lead capacity and longer tracks provided by the rebuilt yard, cars can be switched into blocks at Milwaukee for some of the principal connections in Chicago. These will include all junctions via the Terre Haute division and the Indiana Harbor Belt, and certain connections at the Western Avenue yard at Chicago, thus reducing switching time at Chicago.

The new yard now provides direct access to the rip tracks, so that bad-order cars can be handled promptly by being switched into a bad-order track adjacent to the repair yard. When repaired, these cars will be set on two tracks adjacent to Air Line yard where engines can reach in and pull them back for switching.

In a city like Milwaukee, where loadings are often in excess of 1,500 cars daily, the furnishing and distribution of empty equipment is an important problem. Heretofore, there have been periodical shortages and gluts of equipment in certain districts because cars were furnished from several sources, which often resulted in the overlapping of services. With the new yard, it is expected that, except for empties reloaded in the same district in which the car is unloaded, empty cars will be segregated and switched in one area, thus avoiding a surplus in one district while a shortage exists in another.

Yard Area Is Restricted

The problem of adapting the old flat-switching yard to operation of power switches and car retarders was not an easy one for the engineering department to solve. The river and bluff limited any track expansion on the sides. Some lengthening of the yard was possible at the east end, but at the west end where the gravity-retarder system was to be constructed the river curved sharply toward the bluff so that no extension was possible there. To complicate matters two city viaducts cross over the yard, one of which straddles the location where the retarder layout was to be established. The viaducts were built high to meet the top of the bluff, so that ample overhead clearance was available, but the problem remained of locating the tracks so as to miss the viaduct supports.

It was decided to retain the same number of tracks, i.e., eight receiving tracks on the bluff side of the yard and 24 classification tracks and a bad-order track on the river side. Because of the new grades established in the classification yard, creating substantial differences in elevation between the classification and receiving yards, it was necessary to build a retaining wall between them. Also the track alinement at the retarder end required the cutting back of the bluff and the construction of a long steel sheet-pile retaining wall along its face.

A new main lead to the yard was constructed at the west end of the gravity-retarder system. This lead is so designed that it can be worked either from the direction of Blue Mound yard, which is a receiving and storage yard that curves to the northwest, or from the direction of Soldiers' Home yard, which lies due west. This was necessary because trains coming in from the north and northwest, with cars to be classified at Air Line yard, arrive over two lines. One line, known as the freight line, enters at the west end of Soldiers' Home yard, continues along the south side of this yard, then parallels the classification leads until it reaches the tracks in the receiving yard. Cars in trains arriving over this line are normally pulled back from the receiving tracks to Blue Mound yard, from which they are switched. However, the tracks approaching the main switching lead are arranged so that switching can also be done from the main track from the direction of Soldiers' Home yard.

Some trains with cars to be classified at Air Line enter the terminal to the north of Blue Mound yard over what is known as the passenger line. These trains do not use the Air Line receiving tracks. Instead, the road engines are cut off upon arrival at Blue Mound yard, the cars are inspected, and the waybills and other information are sent to the Air Line yard office by a pneumatic tube system. Switching of cars from these trains, of course, proceeds from Blue Mound yard.

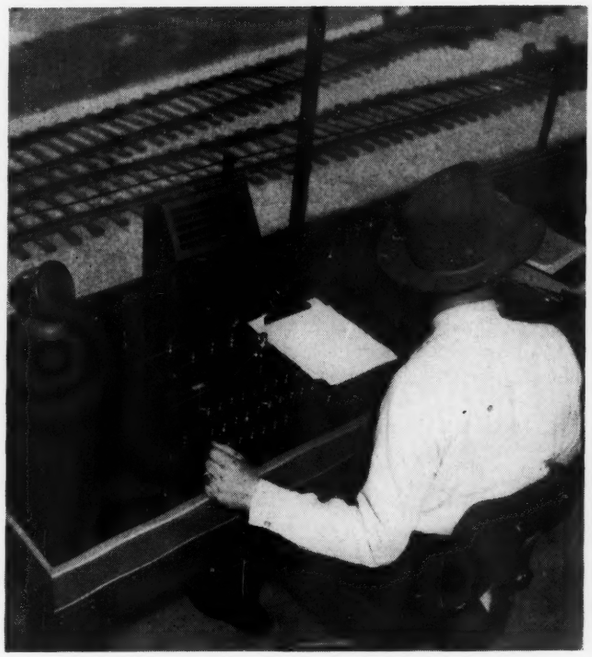
Retarder on a Curve

After passing over the crest of the gravity system and through a master retarder, the lead fans out into four separate track groupings, each having a secondary retarder and six or seven tracks. These are all electro-pneumatic retarders. An interesting feature of the master retarder is that most of it was installed on a six-degree curve, this being necessary to make the most efficient use of the limited area available.

To minimize the length of the yard tracks taken up by turnouts, a lap turnout was used just below the master retarder. All power-operated switches were equipped with Calrod type General Electric switch heaters.

The crest of the grade is at elevation 39.37 or approximately 9.5 ft. higher than the previous drill lead at that location. With a vertical curve at the crest, there is 191 ft. of 4 per cent descending grade down through the main retarder, followed by 1.41 to 1.75 per cent grades through the switches separating the four group leads. The descending grade through the four secondary retarders is 1 per cent, and is followed by varying grades on through the switches. After passing the clearance points of the classification tracks, the descending grade is 0.15 per cent, which, under normal conditions, will keep cars moving at about 4 m.p.h., if they arrive at that speed, without acceleration.

Retarders and power switches are manipulated from a control machine by one operator located on the top floor of a three-story control tower that is situated south of the retarder layout. This building is of common brick construction, with cut stone trim and coping, and houses a boiler room, a storage room and a toilet room with lavatory on the first floor; a yardmaster's office, toilet and lavatory on the second floor; and a retarder control operator's office, toilet and lavatory on the third floor. Liberal use has been made of glass in the design of the upper two floors to permit full view of all switch-



With this machine the one operator selects the routing of a car or cut of cars to the correct track anywhere in the classification yard and controls the speed to produce proper coupling.

The yardmaster's office is the key point for yard operations. It has a pneumatic-tube station, a Teletype machine, a radio transmitter and receiver, and a control panel for paging and talk-back communication.

ing and yard operations, while wide overhanging eaves prevent sunlight entering the upper room during the warmer part of the day. The windows are of the architectural-projected type, with all-metal sash and frames, except for the third floor which has large floor-to-ceiling panels of Thermopane. An enclosed stairway connects the three floors, and there is a dumbwaiter between the second and third floors. There is a pneumatic-tube station, a control panel for the paging and talk-back system, a Teletype machine, and a wayside radio station in the yardmaster's office, and an electric drinking fountain and four steel lockers on each of the upper two floors.

Switching Operation

The control and operation of retarders and power switches are described in detail in the following article. Cars are pushed over the crest of the grade by a 2,400-hp. Fairbanks-Morse switcher made up of two 1,200-hp. units connected back to back. Once switching has progressed to the point where the locomotive has traversed part of the curve at the south end of Blue Mound yard, the load of the cars and resistance of the curve have diminished to the point where the motors of one unit can be throttled.

Because of the large number of tracks in Blue Mound yard from which cars are pushed, as well as the sharp curve between Blue Mound and the crest of the grade, a total of five repeater signals are used, strategically located so that at least one signal can always be seen by the switching locomotive crew. Conventional back-to-back mounting of the units is used on four of the signals. The fifth has three units; one is visible from Blue Mound yard, the second is visible from the main freight track, and the third is visible after the locomotive has passed the signal and is on the approach lead.

Four indications are used on the signals: green for

A signal maintainer at one of the talk-back units pressing the button for attracting the attention of the yardmaster in the control tower in the background. The small metal building alongside the tower houses the many relays, rectifiers, transformers, etc., required for operation of the automatic switching and speed control systems.

Where facilities could be built off of the site, this was done to save time and so as not to interfere with yard operations. Car retarders were pre-assembled on flat cars and set in place by locomotive cranes. Here, a locomotive crane is placing one of the precast oiling-pit foundations.

During construction, earthmoving equipment and track-building machines were in evidence all over the yard. Here, two front-end loaders team up to raise a track out of ballast that had been unloaded over it.

approach at moderate speed, yellow for advance slow (2 to 3 m.p.h.), red for stop, and flashing red for a back-up move in a westerly direction.

The circuits are arranged so that the signals can be cleared simultaneously with the trimmer signals. This feature saves considerable time, because it makes it possible to move a string of cars into switching position without waiting for trimming operations to be halted. A short detector section is provided at stopping distance from the crest of the grade, and when the first pair of wheels enters this section, the switching signals are automatically controlled to stop if the trimmer signals are clear. With the trimmer signals controlled to stop, the switch foreman can change the signals to yellow while a car is in the detector section, and switching proceeds. He cannot, however, control the signal to green, as that aspect is used only to bring cars up to the crest.

Locomotives used in this yard are equipped with two-way Bendix radio. Hence, in addition to the signals, the switch foreman at the crest can also use the radio to talk with the engineman for directing operations.

On the lead from the receiving yard up to the crest, there is a dragging-equipment detector. If anything hanging from a car engages the detector, the signals are changed to display stop. After an inspection has been made, the foreman must push a button on his controller to clear the signals.

In addition to the operator's control tower, other facilities provided at the west end of the yard include a switch foreman's office at the crest of the grade, journal oiling pits, a compressor building, a small yard office, condensers, electric substation, 100-ft. floodlight tower, and a small sheet-metal structure housing the relays, rectifiers, transformers, etc., needed for operation of the automatic switching and speed control system.

Other New Terminal Facilities

A track scale was installed on the most southerly of the classification tracks. Another floodlight tower and a yard-office tower were constructed near the east end of the classification tracks, while a two-story-and-basement general yard office was built at the east end of Air Line yard where it is also convenient to contiguous yards.

In general, the buildings are of fireproof construction throughout, and built of brick and concrete masonry with glazed tile interiors, concrete floor slabs, insulated ceilings, and with individual heating plants. The general yard office is the most imposing structure. It houses the assistant superintendent and his staff, train director, yardmaster, yard clerks, car distributor, road caller, trainmen's waiting room, train supply room, file storage room, lockers and toilet facilities.

Provisions have also been made at the east end of Air Line yard for servicing diesel locomotives. These facilities include a 100,000-gal. fuel oil tank surrounded by an earthen dike, a pumphouse, a track with oil-unloading racks, a fuel, water and sand-servicing track, two material tracks, and an air-compressor building for charging train lines.

Supervision by Communications

The clerical forces housed in the Air Line Yard office at 35th street make switching lists which are Teletyped to the yardmaster's office located on the second floor of the control tower where a printing machine makes three copies of them. One copy is retained by the yardmaster, the second is placed in the dumbwaiter and sent to the retarder operator on the third floor, and the third is sent to the switch foreman's office through the pneumatic-tube system. Waybill consists of trains arriving at Blue Mound yard via the passenger line are tubed to the Air Line Yard office.

The yardmaster's office is the control center of the extensive intercommunication system, which includes 14 high-level paging speakers and 31 low-level talk-back units.

The system extends from the Blue Mound yard office, at the north end of Blue Mound yard, to the 27th Street viaduct at the east end of Air Line yard, and also takes in the Soldiers' Home yard. Talk-back units are located in the retarder control room as well as in the foreman's office. Equipment for the intercom and loudspeaker systems, including the control console in the yardmaster's office, was furnished by the Electronic Communication Equipment Company.

The yardmaster's office is also equipped with two-way

radio. Thus the yardmaster can talk directly to an engineman, telling him when to move a string of cars up into switching position, advising him to adjust speeds as the occasion arises, and otherwise using the system to improve classifying operations. The engineman can also talk directly to the yardmaster, confirming instructions and asking questions pertaining to the handling of his duties.

Work Is Skillfully Handled

There was naturally a feeling of urgency for completing this revamping project as quickly as possible because, for as long as construction work progressed, even the old inadequate switching capacity of the yard could not be maintained. That the work was completed three months ahead of schedule—while the yard was kept functioning to a high degree—can only be attributed to skillful execution of the work and to a high degree of cooperation between departments of the railroad.

The work was planned so as to take as few tracks as possible out of operation at any one time. Extensive use was made of earthmoving and track-building machines. When a classification track had to be lowered to a new grade two locomotive cranes were employed to lift it up and deposit it on an adjacent track so that earthmoving machines could construct the new grade. Retarders were preassembled* so that they could be set in quickly with cranes, during which time switching was handled from the east end only. Also, as much as possible of the switching load was transferred to outlying yards. Even the journal oiling pits were precast and set in place by cranes.

The improvements at Air Line yard were planned and carried out by railroad personnel except that outside contractors were employed with their equipment to supplement the work of railroad forces and for carrying out that work not customarily handled by railway personnel. A trainmaster was assigned to the work to assist in getting quick and efficient moves by work trains.

On June 18, directors of the Milwaukee made a tour of inspection of the rebuilt Air Line yard. Here, J. P. Kiley, president of the road, is showing William L. O'Brien (left) and Walter T. Mahoney, directors of the road, a point of special interest from the open-sided inspection car.

* A detailed account of the method of installing the retarders was given in *Railway Age*, June 2, page 82.

BENCH MARKS AND YARDSTICKS—17

Edward L. Bernays, in his new book entitled "Public Relations,"* sets forth the qualifications for "the ideal public relations man." The list of required qualities is a long one and only a few can be cited here. "Character and integrity"; "sense of judgment and logic"; "ability to think creatively and imaginatively"; "broad cultural background and intellectual curiosity"; "effective powers of analysis and synthesis"; the "rare quality of intuition"; "objective, yet possessed of a deep interest in the solution of problems"—such are some of Mr. Bernays' specifications.

Obviously, Mr. Bernays admits, no one person can have all these attributes—so the problem boils down to one of getting as many of them as possible. Objectivity —freedom from fixity of preconceived ideas—is highly important. Ability to get along with people is desirable, but a comparatively low grade on this quality "can be compensated for by unusual insight, intuition, and powers of analysis and synthesis."

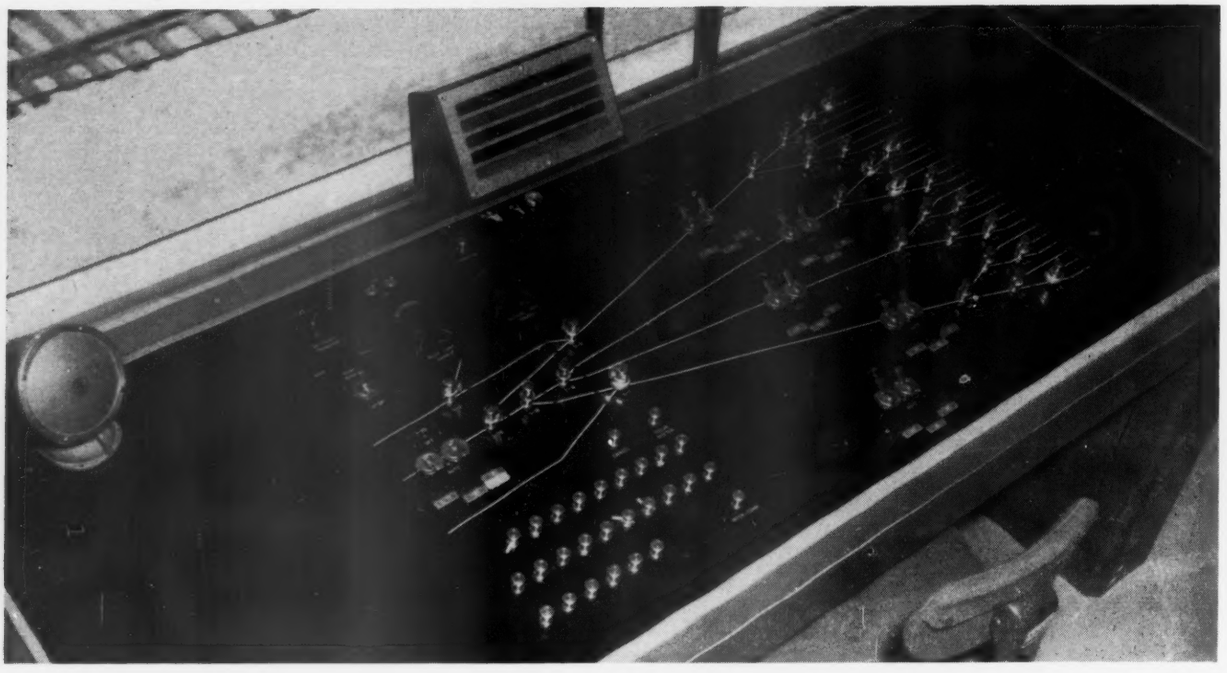
Maybe Mr. Bernays is right if it is a public relations adviser that he is talking about rather than an active practitioner of the art—but it's pretty hard to conceive of a practitioner who isn't liked himself being hired to induce other people to understand and like each other. Getting along with people, of course, doesn't necessarily mean being a "glad-hander," of whom there are many who are held in low esteem—while some quiet little fellow with a good head on his shoulders will more than make up for the fewer people who know him by the intensity of the favorable opinion of those who do know him.

One very important point he makes is that "a public relations man must tell his client not what he wants to hear, but what is sound, what will accomplish his social objectives." If there be one principle for honest public relations, publicity or advertising counsel, that is it. The profession has a name for the other approach, i.e., "board of directors copy"—something that will please the practitioner's employer, but not necessarily the people the employer wants to influence.

The practitioner in this field, of course, needs to know the mechanics of his job—the various available "media" and the effective approaches to them. Mr. Bernays also believes that he should be trained in the social sciences and have the "equivalent of a college education"—this equivalent often being better than such formal educational status itself. And experience in the work is probably the best teacher for it.

All in all, this veteran public relations counselor has produced a pretty comprehensive "yardstick" for the job. If any of our readers have supplementary suggestions, or exceptions they'd like to record, we'd be glad to have them.

* University of Oklahoma Press, Norman, Okla., $5.



The automatic switching and retarder speed control systems enable one man, at this machine, to control the entire yard.

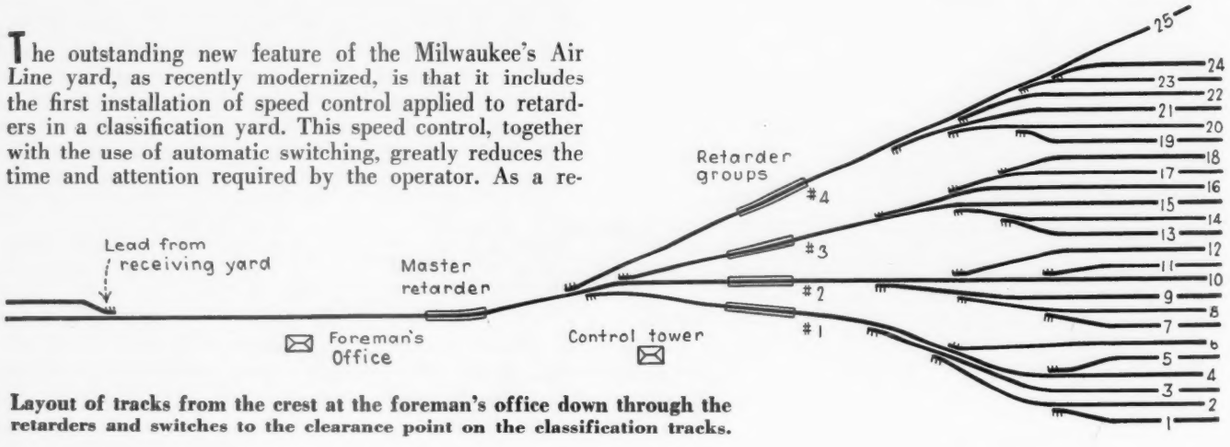
In the Milwaukee's Air Line Yard . . .

New Controls for Switches and Retarders

First installation with retarder speed control, and push-button automatic switching, all controlled by a single machine operated by one man to govern all switches and retarders in this entire yard

The outstanding new feature of the Milwaukee's Air Line yard, as recently modernized, is that it includes the first installation of speed control applied to retarders in a classification yard. This speed control, together with the use of automatic switching, greatly reduces the time and attention required by the operator. As a result, only one machine is required to control all switches and retarders in this yard. The machine is on the top floor of a new tower at the location shown on the plan.

It is a desk-type machine, approximately 6 feet wide and 27 inches deep, with a 5-foot knee-hole opening. The push buttons and levers are mounted on the sloping top of the desk in such a manner that they are within easy reach of the operator, and a natural sequence of



Layout of tracks from the crest at the foreman's office down through the retarders and switches to the clearance point on the classification tracks.

operations can be followed in routing and retarding cars. Ample space for switch lists is provided at each end of the control machine.

Briefly, the operation of retarder speed control is that, when a car or cut of cars is in a retarder, the speed is gradually reduced to a predetermined rate, after which the car is released automatically.

The control panel includes an illuminated track diagram with a white line, ⅛ inch wide, representing each track. Lamps indicate the position of switches, and the locations of cars as they pass over corresponding sections of track. On this diagram, and adjacent to the symbol for each retarder, there is a set of small push buttons each of which is marked for a corresponding speed, such as 4, 5, 6, 7, 8½ and 10 m.p.h. When one of these buttons for a given retarder is depressed, it remains so until another is pushed, whereupon the latter one will stay down, and the desired speed control will be in effect in the respective retarder.

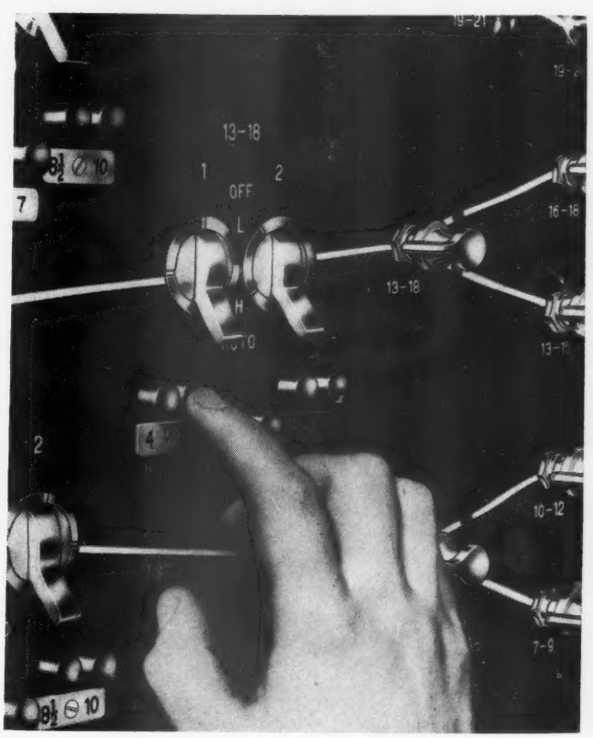
The switch list shows whether cars are empty or loaded and whether the loads are light or heavy. Having decided the speed at which an approaching car or cut of cars is to be released from a retarder, the operator pushes that button. Application of the proper pressure to produce the desired speed is automatically accomplished as the cut travels through the retarder. Uniform, accurate regulation of speed is obtained, regardless of variations in car weights. Since it is not necessary for the operator to control the retarder manually to obtain a certain speed, he can devote more of his time to observing cut movements, so as to select the proper leaving speeds. The amount of attention required for controlling each retarder is thus lessened considerably; therefore, the operator can handle the automatic switching as well.

Provision is made also for manual control of retarders. Two two-position levers (one for each section of the retarder), are located on the panel at each place corresponding to a retarder location. These levers, which are normally in the "off" position, are operated to the automatic position when classification is started. If necessary to operate a retarder manually, the retarder control lever is moved to the "H" position to apply full pressure to the retarder, and to the "L" position for half pressure. By moving the lever to the "off" positon, the retarder will release.

Automatic Switching

Shown at the lower left in the accompanying picture of the control panel is a set of push buttons, one each to correspond with the 25 classification tracks. From his switch list the operator knows the track to which each car or cut of cars is to go. The automatic switching system makes it possible for the operator to route a cut of cars automatically from the hump to the desired classification track by merely pressing one push button. When the push button bearing the number of the track to which the first cut is assigned is pressed, the first switch in the route is controlled to the proper position. As the cut enters the detector section associated with that switch, it forwards a control to the next switch in the route, whereupon the latter operates to the proper position. This operation is repeated at each successive switch until the cut reaches its assigned classification track. The operator can store controls in advance for as many as five cuts. Each time a cut passes the first switch in the route it makes room for the storage of controls for another cut. A digit indicator, located on the top of the machine, is provided to show the routes that have been selected and stored.

The track through the master retarder is on a 6-degree curve, with a 4 per cent descending grade.



The speed at which a retarder will release a car is established by the operator pushing the corresponding buton.

In addition to the concentration of control which was made possible at Air Line by the use of automatic switching and speed control, it is also expected that damage claims will be lowered as a result of smoother operation. Moreover, it is expected that trimming operations will be reduced.

In addition to the automatic control of switches as previously outlined, there is also manual control of

switches. A three-position manual control lever is placed on the track diagram at the location corresponding to each respective switch. The natural "Y" formed by the track model lines is utilized to simplify the use of the manual switch control lever. When the lever is lined up with the left arm of the "Y," the switch will be thrown to the left, or normal position, and route the cut of cars down the track represented by the left arm of the "Y." When the lever is lined up with the right arm of the "Y," the switch will be controlled to the right, or reverse position, and the cut will be routed down the track represented by the right arm of the "Y." When the lever is lined up with the leg of the "Y," the switch will respond to controls transmitted by the automatic switching system.

Switch indication lamps are provided on the track model at each point representing a switch; an amber lamp on the left arm of the "Y," and a green lamp on the right arm. These colors are the same as used for the aspects of the switch position signals. (Yellow: Switch lined for left-hand movement; facing-point direction.) When the automatic switching system is in operation, the switch indication lamps serve as route progression lamps, lighting in advance of a cut as it progresses, and showing what route it will take through each switch. When the cut enters the detector section associated with each switch, the corresponding route progression lamp becomes extinguished. During manual operation, either the normal or reverse lamp is lighted, depending upon the position of the switch. As with automatic operation, the lamp becomes extinguished when a cut enters the associated detector section, but,

400,000 Gross Ton-Miles Per Train-Hour

By C. C. WHITTAKER
and W. M. HUTCHISON

Transportation Engineers
Westinghouse Electric Corporation
East Pittsburgh, Pa.

Ignitron locomotives, in freight service between Enola, Pa., and Morrisville, hauled 13,348 actual tons, at an average speed of 30 miles per hour

One day last November, a shiny new electric locomotive eased out of the Pennsylvania Railroad yards at Enola, Pa. Nothing about its appearance distinguished it significantly from other locomotives of the Pennsylvania electrification. Actually, it is unlike any of its predecessors. It is the first Ignitron rectifier locomotive and, as such, establishes another milestone in railroading. In its first big test, operating in regular revenue service the rectifier locomotive has proved to be everything expected of it. But, in addition to providing significant advantages in the present-day service, the Igni-

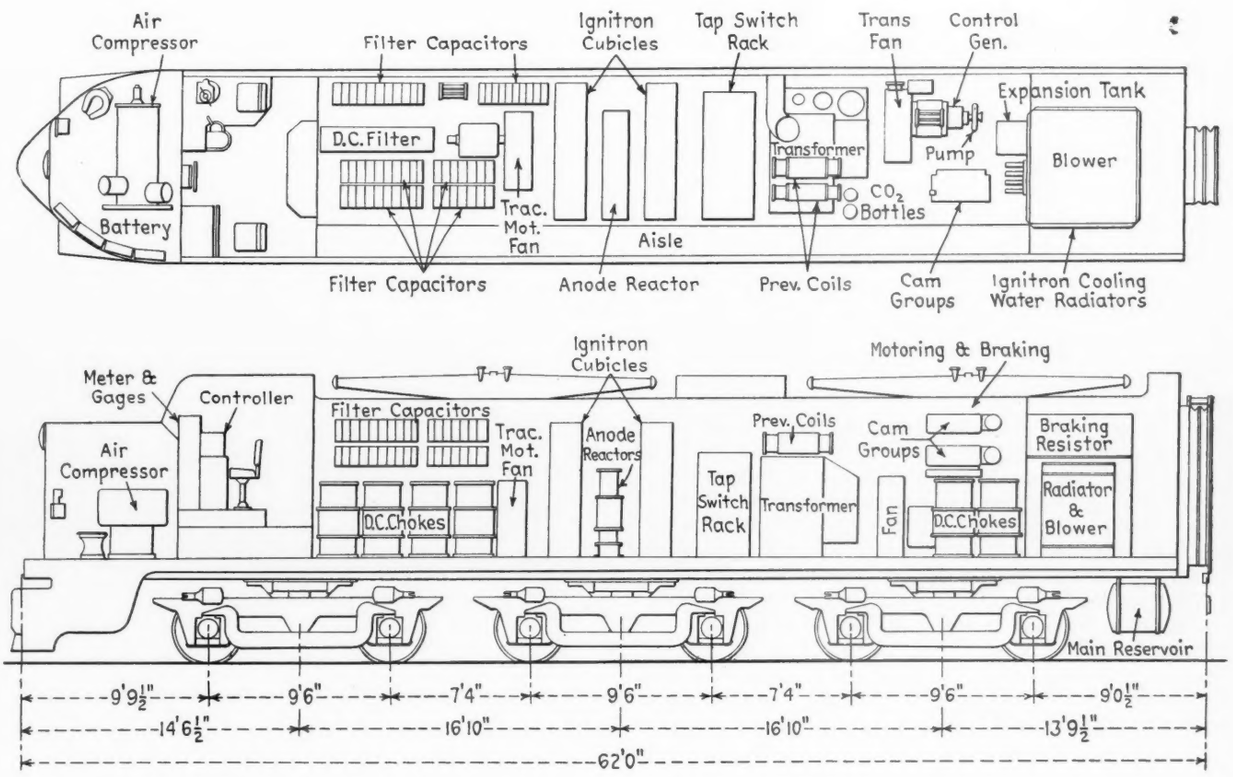
in this case, lights again when the cut leaves the section. If a switch should "stall" during transit because of an obstruction in the switch points, it will be returned automatically to the original position. This fact will be indicated by flashing of the switch indication lamp corresponding to the original position of the switch, as well as by the sounding of a bell.

A red track-occupancy lamp is also provided between the arms of the "Y" at each point representing a switch. This lamp becomes lighted only when a cut occupies the associated detector section. Red lamps are also located on the track lines at points corresponding to the entering end of each classification track. Each of these lamps serves as a clearance lamp, and will remain lighted if a cut fails to clear the fouling point of its associated classification track.

Other indications include a dragging-equipment detector lamp, which lights if the dragging-equipment detector on the approach to the classification yard is actuated; lamps to warn of low air pressure; and lamps to indicate the aspects displayed by the classification and trimmer signals. A bell is also used to warn of low air pressure.

An article explaining the circuits used in the automatic switching system and the retarder speed control will be published in *Railway Signaling & Communications*.

The retarder speed control and automatic switching system, as well as the electropneumatic retarders, switch machines and signal equipment installed in this yard, were furnished by the Union Switch & Signal Division of the Westinghouse Air Brake Company.



Layout of an Ignitron locomotive showing arrangement of the principal electrical apparatus. The motor to the right of the transformer drives the transformer blower, a control generator, and a centrifugal pump that circulates cooling water for the Ignitron tubes. At the back of the car, below the braking resistors, is a vertical Axiflow fan for the cooling system. Air is then forced past the dynamic-braking resistors and is expelled through the roof.

tron locomotive may have an important effect on future railroad electrification.

A few months after the first Ignitron locomotive went into service, a second similar one joined it. These two locomotives have rolled up a combined total of 60,000 miles of service and have proved eminently satisfactory in the tough freight service between Harrisburg, Pa., and the east coast.

The Ignitron locomotive represents a completely new principle of electric locomotive operation. Single-phase a.c. power from the overhead trolley is rectified by means of sealed Ignitron tubes, and the d.c. output of the rectifier is supplied to series-wound, d.c. traction motors that drive the locomotive. Thus, the economies possible with an a.c. trolley system and the tractive advantages of d.c. motors are combined in the same locomotive.

Both the d.c. and a.c. systems have advantages. Low-voltage d.c. traction motors inherently cost less. They also require less maintenance. The a.c. series commutator motor, although it serves its purpose well, has always had high first cost and high maintenance expense. This is because the a.c. motor requires a low operating voltage and, therefore, high current which results in

Each Ignitron cubicle houses six tubes and associated apparatus. Firing controls are at the top left; the anode breakers, at the upper right.

a longer commutator and more brushes per brushholder. Also, the a.c. motor is essentially a low-flux-per-pole motor. Therefore, it has more poles than a corresponding d.c. motor, and proportionately more brush holders. It requires a revolving brush-holder yoke and a complicated system of main and interpole field shunts and relays that have proved expensive in first cost and maintenance, especially since a failure of these devices usually carries with it a motor failure. Consequently, the d.c. series motor is preferable. On the other hand, a high-voltage a.c. trolley system reduces transmission losses and lowers first cost of electrification in comparison with d.c. transmission. Although some 1,500- and 3,000-volt d.c. systems are used, most railroad electrifications in this country use a single-phase a.c. power.

To prove that the modern Ignitron was suitable for railway service, a multiple-unit car for commuter service on the Pennsylvania was so equipped. It has given excellent, trouble-free service since 1949. The performance of that car was so successful that development and acceptance by the Pennsylvania of an Ignitron freight locomotive soon followed.

Electrical Apparatus

Although the rectifier principle as applied to locomotive service is new, the apparatus is new only in this combination and for this purpose. Each component has been proved through long service. With the exception of the rectifier and associated circuits, the apparatus on the Ignitron locomotive is similar to that on other electric locomotives.

Each of the locomotives develops 6,000 hp. in two units. This is equivalent in rail horsepower to a 7,300-hp. diesel locomotive, since diesel ratings are based on net horsepower delivered by the diesel engine to the generators. Each unit is rated at 3,000 rail horsepower and is driven through six axles by six 500-hp. d.c. traction motors.

The mechanical parts on these Ignitron locomotives are similar in many respects to those on diesel-electric locomotive units, with the exception of the trucks. On one locomotive, each cab is mounted on three two-axle trucks. The other locomotive has more conventional three-axle trucks. This was done to prove by actual experience which type is more satisfactory.

On the locomotive with three-axle trucks, each cab is supported at three points on each truck; the center pin, located between the first two axles, and the two spring-loaded side bearing pads between the second and third axles. The center pin bearing is carried on a bolster supported from the truck frame by swing-links and springs. The side bearing pads are mounted directly on the frame.

The two-axle truck arrangement consists of three trucks per cab. This is an entirely new design for six-axle, total-adhesion (all axles driven) locomotives. The advantages include simplicity and standardization of truck design, greatly improved tracking qualities, better accessibility to motors, and improved motor ventilation.

On the new design, the center truck is free to move laterally without restraint. This and extremely soft springs and "no-lift" lateral-motion devices prevent weight shift from truck to truck when the locomotive negotiates curves or vertical irregularities in the track. The lateral motion of the end trucks is spring restrained and thus absorbs the lateral shocks that occur on curves and irregular tangent track.

When the locomotive passes over any vertical rise in the track, the center truck tends to take more of the load, but, because of the soft springs, the increase in load is small and does not greatly affect the axle-to-axle load distribution. The suspension springs, being soft, have a large deflection (7½ in.) when loaded and any incremental increase in deflection causes only a small additional increase in axle load.

Another unique feature of the two-axle truck design is that the entire cab weight is carried by the side-bearing pads. The center pin serves only as a swivel bearing and to transmit the tractive force; it is hollow and is used to transmit cooling air to the motors, with a significant improvement in motor ventilation.

Running tests up to the present have shown excellent riding qualities for the three-truck locomotive cab, even at top speed on relatively rough track. Tests on the second locomotive having two three-axle trucks are not

PERFORMANCE OF ELECTRIC FREIGHT LOCOMOTIVES IN ROAD TESTS, ENOLA, PA., TO MORRISVILLE (130 MILES)

	Locomotive Data		
	Class GG1	Class P5a	Class E2C
Type	a.c.	a.c.	a.c. to d.c.
Number of cabs	1	1	2
Continuous rail horsepower	4,620	3,750	6,000
Maximum speed (m.p.h.)	90		63
Total weight (lb.)	460,000	394,000	740,900
Weight on drivers (lb.)	300,000	229,000	740,900
Overall length (ft.)	79.5	62.7	124
Present tonnage ratings Enola to Morrisville, Pa.			
Adjusted tons (factor = 20)	6,000	6,300	16,800
Flat tons, 50-ton cars	4,280	4,500	12,000
Flat tons, 85-ton cars	4,850	5,100	13,600
	Road Tests		
Date	Aug. 23, 1946	Aug. 14, 1946	Feb. 19, 1952
Rail condition	dry	dry	dry
Number of cars	76	80	162
Adjusted tons	5,895	6,158	16,588
Flat tons	4,375	4,558	13,348
Per cent of rating	98.2	97.7	98.3
Time in motion	3 hr. 28 min.	4 hr. 50 min.	4 hr. 20 min.
Average speed (m.p.h.)	37.4	26.8	30
Gross ton-miles	568,750	592,540	1,735,240
Gross ton-miles per train running hour	163,905	122,679	400,440

yet very extensive, but indications are that the tracking qualities will not equal the performance of the first locomotive.

Any new equipment, particularly that embodying such a radical departure from existing equipment as the Ignitron locomotive, must result in significant improvements in operation and performance to gain widespread acceptance. And the proof of the performance comes when the equipment is placed in service under actual operating conditions.

During the first 60,000 miles of revenue service on the Pennsylvania, the first two Ignitron locomotives have given excellent service.

Arc-backs within the Ignitron tube, as described in a previous article (*Railway Age*, February 11) presented the greatest possibility for trouble. This is encountered in some stationary installations of Ignitron tubes and was one of the reasons for the failure of an earlier rectifier railway car operated on the New Haven in 1914. This trouble has not been encountered either on the multiple-unit car or on the two locomotives.

A large number of notches are provided so that, during acceleration, the increase in tractive force between notches is small. This minimizes the possibility of slipping the wheels when the controller is advanced. As a result, a heavy train can be started very smoothly and without imposing excessive stress on drawbars.

The tremendous pulling power of the Ignitron locomotive was spectacularly demonstrated last February. A train made up of 162 cars of coal—the train was about a mile and a quarter long—was hauled from the freight yard at Enola to Morrisville, Pa., 130 miles. This run is typical of hard freight service, and contains many curves and crossovers, and frequent grades. The total load on the train was 16,588 adjusted tons. (This was 13,348 actual tons. An adjustment factor of 20 has been established for the Pennsylvania electrified zones.) The run was made at an average speed of 30 m.p.h. Very little sand was applied on this difficult run. On the heaviest grades, it was necessary to use only light sanding in front of the leading truck to prevent slipping.

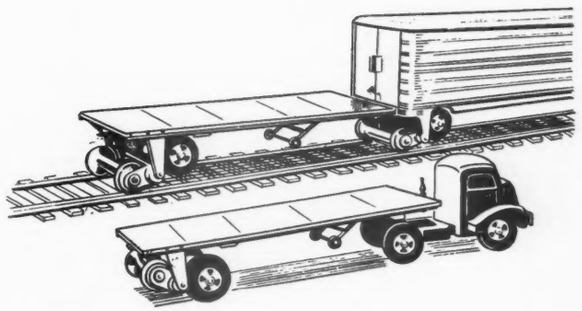
A good measure of the performance of freight locomotives is gross ton-miles hauled per train running hour. The usefulness of the powerful Ignitron locomotive in handling tonnage is well illustrated by the comparison in the table which gives the performance of the 6,000-hp. Ignitron locomotive (Class E2C) and the present electric locomotives (Class GG1 and P5a) as determined by road tests over the same route. The gross ton-miles per train running hour for the Ignitron locomotive are 400,440, compared with 163,905 and 122,679 for GG1 and P5a locomotives, respectively.

During the test run, the minimum speed of the Ignitron locomotive up the 21.2-mile, 0.288 per cent Smithville grade, hauling a train of 162 cars loaded with coal, was 24 m.p.h.

Control Smooth—Riding Good

Extremely smooth, uniform starting is possible with an Ignitron locomotive. This minimizes the possibility of breaking a drawbar during starting. As one railroad man states, "This locomotive starts a 150-car freight train with the same ease that the GG1 (conventional a.c. locomotive) starts a passenger train."

The Ignitron locomotive can "hang on" at low speeds, that is, it can move forward at extremely slow speed without stopping and without overheating the motors. Frequently this eliminates the necessity of stopping when the train approaches a stop signal; it can creep forward while waiting for the signal to change. This keeps the track behind it clear, so that other trains are not held up.



Federation for Railway Progress

AN ARTIST'S conception of an experimental highway trailer, designed for operation either on rails or on the highway, which is being developed by one American road (which prefers not to be identified). As reported in *Railway Age*, March 31, page 12, these trailers are being designed so that they can be operated behind a tractor-truck unit in the conventional manner on the public highways, or can be assembled into trains and moved on rails —using their own wheels. The forward end of each trailer would be coupled to the rear of the preceding trailer, giving a train similar in principle to that being developed by the Chesapeake & Ohio and the Pullman-Standard Car Manufacturing Company as "Train X," and to the "Talgo" train built by the American Car & Foundry Co. for the Spanish railways.

The Ignitron locomotive is not "slippery." This quality is achieved because the weight is equally distributed on all drivers and the d.c. motors are operated in parallel. The voltage is the same on all motors and they tend to turn at the same speed. Excessive slipping is also minimized by distributing the weight of the locomotive equally on all axles. Equal distribution of weight is essential on any locomotive.

Easy riding, though not apparently a requirement of freight locomotives, is important in extending the life of equipment and reducing maintenance expense. Men who have ridden the Ignitron freight locomotive agree that in ease of riding it excels previous locomotives.

The Future

The experience gained thus far with two Ignitron locomotives is convincing evidence that here is a valuable new addition to the motive power equipment available for electrified railroads. It is a most satisfactory combination of the advantages of an a.c. trolley system with those of d.c. traction motors.

But perhaps the most important feature, considering long-range effects on railroad electrification, is adaptability of the Ignitron locomotive to 60-cycle power. All a.c. railroad systems in this country operate from 25-cycle power, primarily because the single-phase a.c. motor works better at low frequency. However, the Ignitron locomotive operates equally well on either 25- or 60-cycle power and makes possible future railroad electrification at commercial frequencies. Locomotive apparatus for operation at 60 cycles will be smaller and weigh less than 25-cycle equipment, and the size and cost as well as the amount of transmission and distribution apparatus can also be reduced if a frequency of 60 cycles is used. Further economies can be realized by increasing trolley voltages above the presently used 11 kv. Also, 60-cycle distribution apparatus is standardized and produced in large quantities, resulting in still further savings.

BOOK-TYPE TICKETS, vest pocket size, are being adopted on the Baltimore & Ohio. Six different book tickets of this type will take the place of more than 600 of the old accordion-type strip forms, while each of the new tickets also provides each purchaser with an automatic record of his itinerary and his transportation expenses.

EQUIPMENT AND SUPPLIES

The **Transportation Corps** has announced it will acquire 135 mechanical refrigerator cars and five small industrial diesel-mechanical locomotives. The T.C. asked for bids on the reefers late last year, but subsequently withdrew from the market because of changes in specifications. The 40-ton standard-gage cars are for use in foreign service.

The locomotives on which the T.C. has requested bids include four three-ton units and one five-ton unit. The latter will be 685-millimeter gage, and the smaller units will be 600-millimeter gage. All the locomotives are slated for use in Turkey.

FREIGHT CARS

The **Apalachicola Northern** has ordered 100 pulpwood cars from the Pullman-Standard Car Manufacturing Company at a cost of approximately $750,000. Delivery is expected early in 1953.

The **Gulf, Mobile & Ohio** has ordered 50 70-ton covered hopper cars from the Pullman-Standard Car Manufacturing Company. Delivery is scheduled for the first quarter of 1953.

SIGNALING

The **Chesapeake & Ohio** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake the necessary material to install new interlocking facilities at NX Cabin, Newport, Ky. In addition to a 5-ft. Style "C" control machine, the order includes Styles R-2 color light signals, M-3 electric switch machines, SL-21A electric locks, switch circuit controllers, relays, rectifiers and housings. Field installation work will be handled by railway construction forces.

The **Great Northern** has ordered equipment from the General Railway Signal Company for installation of relay interlockings at Sioux City Line Junction, Minn., and Wilmar Junction.

FINANCIAL

I.C.C. Clarifies Policy On Competitive Bidding

The Interstate Commerce Commission has served notice that in the future it will deny applications for exemption from competitive bidding requirements in cases where applicants enter into any discussions or negotiations with prospective purchasers before obtaining the required exemption.

The announcement was made by the commission in a report in which it authorized the Atlantic Coast Line to sell privately $20,000,000 of general mortage, 4¼ per cent bonds. The road requested the relief from competitive bidding but was opposed by Halsey, Stuart & Co.

"The intervenor has established its contention that applicants who desire to avoid competitive sale should not negotiate in advance with prospective purchasers and then present us with a *fait accompli*," the commission said. It added that hereafter it will be "policy," where competitive bidding is *prima facie* required, to deny applications if the applicant has held prior discussions with prospective purchasers.

The Coast Line bonds in this case are to provide funds for additions and betterments made subsequent to January 1, 1950, and to carry on the road's modernization and improvement program in the future. Of the total issue, $13,500,000 will be sold July 1, 1952, $2,500,000 will be sold January 1, 1953, and $4,000,000 on July 1, 1953.

Staggered sale of the new bonds, together with the generally weak railroad bond market, were cited by the ACL as reasons why it should have relief from competitive bidding. It said competitive bidding would not reduce the net cost of the funds.

In approving the road's request for such relief, the I.C.C. went on to approve actual issuance of the new bonds. The bonds, designated as series C, will be dated as issued on July 1, 1952, January 1, 1953, and July 1, 1953. They will mature July 1, 1972. Three insurance companies, the Chase National Bank, and some 300 holders of ACL bonds due July 1, 1952, have agreed to purchase the new issue. (*Railway Age*, June 9, page 73).

Canadian National. — *Expenditures.* — The annual financing legislation for the CNR recently introduced in the House of Commons at Ottawa provides for $202,405,280, as follows:

Additions and betterments (excluding new equipment)—		
Ordered prior to 1952 (revote)	$23,014,271	
Ordered and to be paid in 1952	27,363,257	
		$ 50,377,528
Branch line construction Sherridon-Lynn Lake		7,800,000
New equipment—		
Ordered prior to 1952	$93,647,760	
Ordered and to be paid in 1952	2,413,092	
		96,060,852
Acquisition of securities		516,900
Acquisition of additional working capital		15,000,000
Payment for equipment ordered but delivered in period January 1 to July 1, 1953		50,000,000
Total		$219,755,280
Less amounts available from depreciation reserves and debt discount amortization		17,350,000
		$202,405,280

Chesapeake & Ohio.—*Employees' Stock Purchase Plan Approved.*—C&O stockholders at a special meeting in Richmond, Va., on June 18 approved a plan for employees of the railroad to buy 10-share lots of C&O common stock through payroll deductions (*Railway Age*, May 26, page 59). Under the plan, an employee can decide at any time not to complete payment for the stock and can take back all money he has paid toward it. Employees with five years' service can purchase shares at the current market price, paying $10 a month. About 30,000 of the road's 40,-

(*Continued on page* 75)

(*Continued from page* 70)
000 employees are eligible to purchase the 300,000 shares of authorized but unissued common stock which has been set aside for the plan.

Duluth, South Shore & Atlantic —Minneapolis, St. Paul & Saulte Ste. Marie.—*Sainte Marie Union Depot.*—These roads have been authorized by the I.C.C. to acquire the properties of the Sainte Marie Depot Company at Sault Ste. Marie, Mich. The roads already own all the depot company stock, which will be surrendered for cancellation. The separate depot company will then be dissolved. (*Railway Age*, May 19, page 178).

Missouri-Kansas-Texas. — *Adjustment Bonds.*—The board of directors has authorized payment of one coupon of the adjustment mortgage bonds. The coupon will become due and payable next July 1 and is No. 58, dated October 1, 1951.

Southern Pacific.—*Stock Split.*—This road has applied for I.C.C. authority to issue 4,527,315.0564 shares of new stock, for distribution among present stockholders on the basis of one new share for each share held. It would thus effect a two-for-one stock split. The road hopes this will increase the number of its stockholders.

A total of 4,388,453.0564 new shares would go to public holders of SP stock. The remaining 138,862 shares would be retained by the road for conversion purposes. The road's 3 per cent convertible debentures are due April 1, 1960, and the conversion privileges would be adjusted in line with the proposed stock split.

The SP board of directors approved the stock split at a May 22 meeting. A special meeting of stockholders will vote on the proposal on August 5. Meanwhile, the present shares of SP stock have a stated value of approximately $95 a share. On the New York Stock Exchange, the price of the stock during 1952 has ranged from $60.75 to $80.25 a share.

Investment Publications

[The surveys listed herein are for the most part prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Baker, Weeks & Harden, One Wall st., New York 5.

Comments on a Favorable Railroad Trend. May 29.

Lehigh Valley. June 2.

Fahnestock & Co., 65 Broadway, New York 6.

Southern Railway Company. Weekly Review, May 19.

Erie Railroad Co. Weekly Review, June 16.

H. Hentz & Co., 60 Beaver st., New York 4.

The Eastern Railroads. Fortnightly Review, June 2.

Smith, Barney & Co., 14 Wall st., New York 5.

Baltimore & Ohio Railroad Company. Railroad Bulletin No. 92, April 30.

Railroad Bonds. Railroad Bulletin No. 90, April 28.

Railroad Margins of Safety for Fixed and Contingent Interest Bonds and Preferred Stocks. Railroad Bulletin No. 91, April 28.

Railroad Preferred Stocks. Railroad Bulletin No. 94, May 15.

Railroad Stock Exchange Suggestions. Railroad Bulletin No. 93, May 14.

Vilas & Hickey, 49 Wall st., New York 5.

St. Louis - San Francisco Railway Company Preferred Stock. June 3.

New Securities

Application has been filed with the I.C.C. by:

LOUISVILLE & NASHVILLE.—To assume liability for $9,570,000 of series L equipment trust certificates, to finance in part 55 diesel-electric locomotive units, 22 passenger-train sleeping cars and 125 freight cars. Estimated cost of this equipment, listed below, is $11,967,597.

	Description and Builder	Estimated Unit Cost
2	1,600-hp. road freight "A" units (American Locomotive-General Electric Companies)	$182,287
7	1,500-hp. road freight "B" units (Alco-G.E.)	149,243
6	1,600-hp. general purpose units (Alco-G.E.)	158,764
2	1,600-hp. general purpose units (Alco-G.E.)	150,119
2	1,600-hp. general purpose units (Alco-G.E.)	151,007
2	1,600-hp. general purpose units (Alco-G.E.)	169,616
14	1,000-hp. yard switchers (Alco-G.E.)	101,046
2	1,000-hp. yard switchers (Alco-G.E.)	102,321
2	1,500-hp. general purpose units (Electro-Motive Division, General Motors Corporation)	148,604
12	1,500-hp. general purpose units (Electro Motive)	150,554
1	1,500-hp. general purpose unit (Electro Motive)	159,767
3	1,200-hp. yard switchers (Electro Motive)	102,815
22	passenger-train sleeping cars (Pullman-Standard Car Manufacturing Company)	162,900
125	70-ton covered hopper cars (Pullman-Standard)	7,113

The certificates, dated July 15, would mature in 15 annual installments of $638,000 each, beginning July 15, 1953. They would be sold by competitive bids, with interest rate to be set by such bids.

PITTSBURGH & LAKE ERIE.—To assume liability for $8,850,000 of equipment trust certificates, to finance in part 2,000 new freight cars costing an estimated $11,830,000.

	Description and Builder	Estimated Unit Cost
1,000	70-ton high-side gondola cars (Bethlehem Steel Company)	$6,655
1,000	55-ton self-clearing hopper cars (Pullman-Standard Car Manufacturing Company)	5,175

The certificates, to be dated August 1, would mature in 15 annual installments of $590,000 each, beginning August 1, 1953. They would be sold by competitive bidding, with interest rate to be set by such bids.

Division 4 of the I.C.C. has **authorized:**

BALTIMORE & OHIO.—To assume liability for $3,960,000 of series EE equipment trust certificates, to finance in part 1,000 steel hopper cars costing an estimated $4,950,000. (*Railway Age*, June 2, page 99). Division 4's report approved sale of the certificates for 99.5633 with interest at 3⅛ per cent—the bid of Halsey, Stuart & Co. and six associates—which will make the average annual cost of the proceeds to the road approximately 3.22 per cent. The certificates, dated June 1, will mature in 15 annual installments of $264,000 each, beginning June 1, 1953. They were reoffered to the public at prices yield from 2.15 to 3.25 per cent, according to maturity.

COTTON PLANT-FARGO.—To issue 352 shares of $50 par common stock, $18,900 of unsecured promissory notes and a first mortgage note for $25,000. Proceeds will be used in part to acquire a 5.7-mile rail line between Cotton Plant, Ark., and Fargo. The segment is a portion of the Helena & Northwestern, abandonment of which was authorized by the I.C.C. in 1951. Remainder of the proceeds will go to purchase a used locomotive and to provide working capital. The first mortgage note, with interest at 5 per cent, will mature in four annual installments.

Dividends Declared

CHICAGO & EASTERN ILLINOIS.—$2, payable in common stock, plus 50c cash, both payable July 16 to Class "A" holders of record July 1. (*Railway Age*, June 23, page 92).

MAINE CENTRAL.—6% prior preferred, $1.50, quarterly, payable July 1 to holders of record June 25.

MASSAWIPPI VALLEY.—$3, semiannual, payable August 1 to holders of record July 1.

WEST JERSEY & SEASHORE.—$1.50, semiannual, payable July 1 to holders of record June 13.

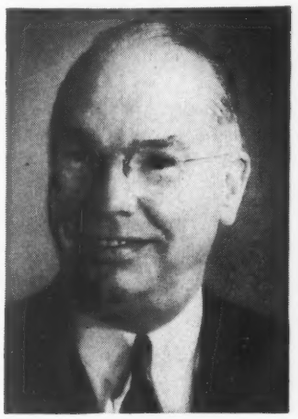
Security Price Averages

	June 24	Prev. Week	Last Year
Average price of 20 representative railway stocks	62.98	62.59	50.08
Average price of 20 representative railway bonds	94.30	93.90	92.16

RAILWAY OFFICERS

EXECUTIVE

As *Railway Age* reported on June 9, **John C. Nolan** has been appointed assistant to vice-president (traffic) of the WESTERN PACIFIC at San Francisco. After serving briefly with the Santa Fe, Mr. Nolan joined the WP in 1928 as city passenger agent at Chicago. He was promoted to assistant



John C. Nolan

general passenger agent in 1932, and in 1942 entered the U. S. Army Transportation Corps. He returned to the WP in 1946 as assistant general passenger agent at New York, followed by promotion to general eastern freight agent in 1950. He held the latter position at the time of his recent promotion.

Thomas Fuller, executive general agent of the ATLANTIC COAST LINE, has been appointed assistant to president, with headquarters as before at

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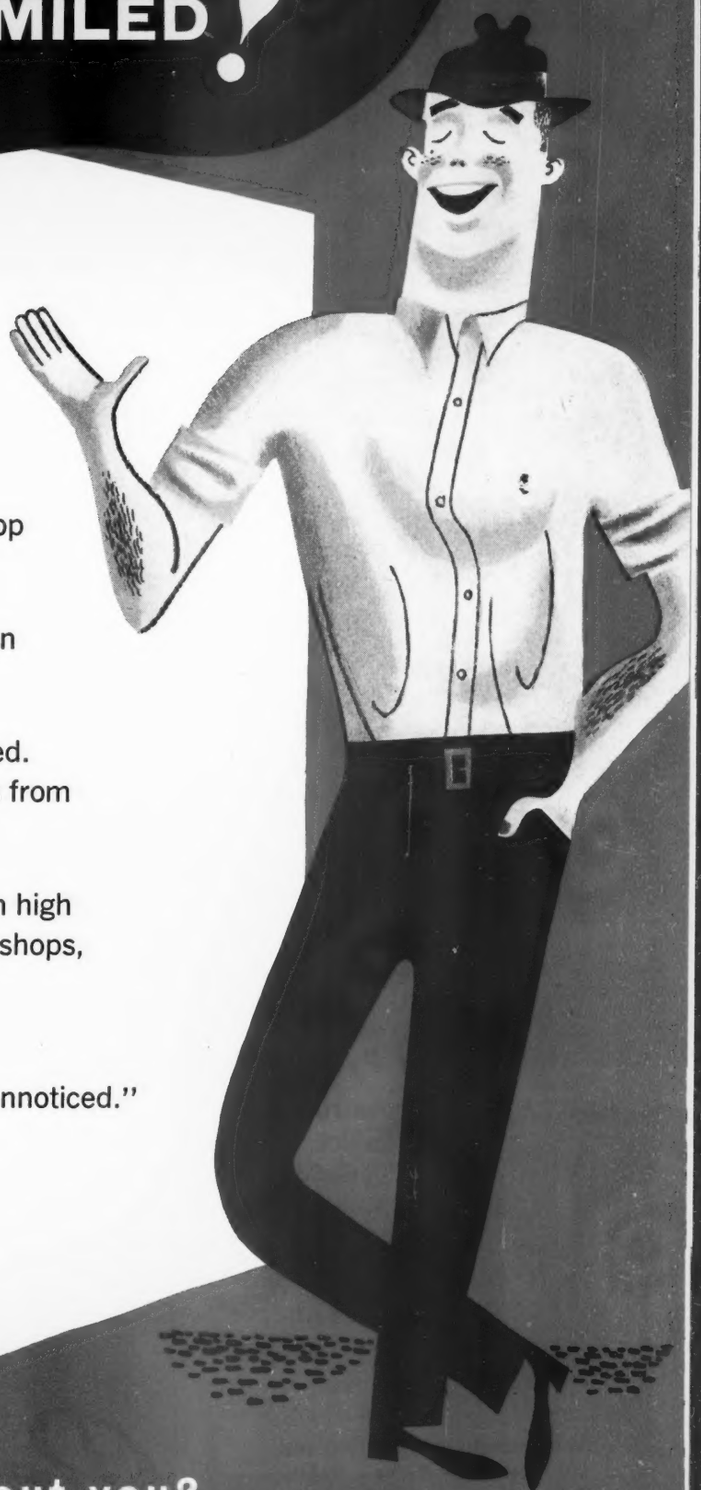
BUT I JUST SMILED!



"Steam," sez he, "the day we need it most we haven't got it."

"Surprize," sez I, "we've got it, and from now on we're keepin it."

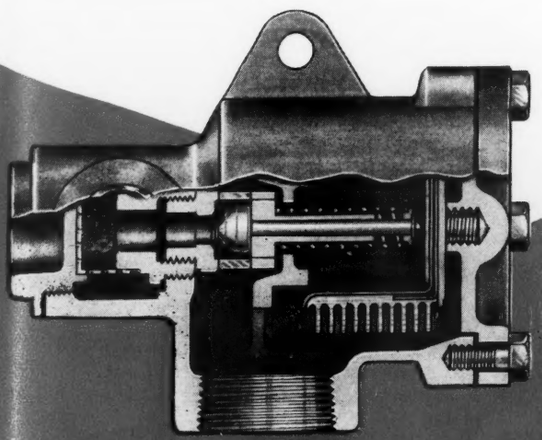
"What da ya mean," he asks, looking around the shop and not seein any.

"New steam traps," I answers, "good—like we use on our train lines."

You'd a thought I was an Einstein, the way he beamed. Hated to tell him all I did was requisition Vapor traps from our stock.

"Funny thing," sez the boss, "railroads work hard on high efficiency in cars and locomotives, but steam-loss in shops, coach yards, roundhouses, and the like often go completely unnoticed."

And then he adds, "but what you've done won't go unnoticed." Swell fellow, my boss!



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Washington, D. C. Mr. Fuller was born in Anderson, S. C., on September 16, 1906, and was graduated from the University of Florida in 1928. He entered railroad service in that year as clerk-stenographer for the ACL at Arcadia, Fla., becoming soliciting freight agent in 1934, traveling freight agent in 1936 and commercial agent in 1939. From 1940 to 1945 he served with the United States Army as captain and

Thomas Fuller

colonel. He was Chief of Transportation, Advance Allied Forces, in the assaults upon Salerno, Italy, and southern France. Colonel Fuller served as executive officer to Major General Frank S. Ross, Chief of Transportation for the European Theatre, and, after the European victory, transferred to the Pacific as Deputy Chief of Transportation for Operations to Brigadier General George C. Stewart, Chief of Transportation for the Pacific Forces. He returned to the ACL on December 1, 1945, as assistant to freight traffic manager, becoming general agent at Tallahassee, Fla., in March 1946, assistant general freight agent at Wilmington in January 1947 and executive general agent at Washington in July 1947.

FINANCIAL, LEGAL & ACCOUNTING

David L. Smith, real estate agent of the ATLANTIC COAST LINE, has been appointed manager of the real estate department, with headquarters as before at Wilmington, N. C. Mr. Smith, a native of Florence, S. C., entered the service of the ACL on December 9, 1929, as a draftsman, becoming assistant engineer in 1931, insurance engineer in 1936, assistant engineer in 1945, assistant real estate agent in 1948 and real estate agent in January 1950. Mr. Smith also serves as general real estate agent for the Atlantic Land & Improvement Company, a subsidiary of the ACL.

Joseph M. O'Mahoney, secretary and director of the NEW YORK CENTRAL at New York, retired on June 30, after 52 years with the company. Mr. O'Ma-

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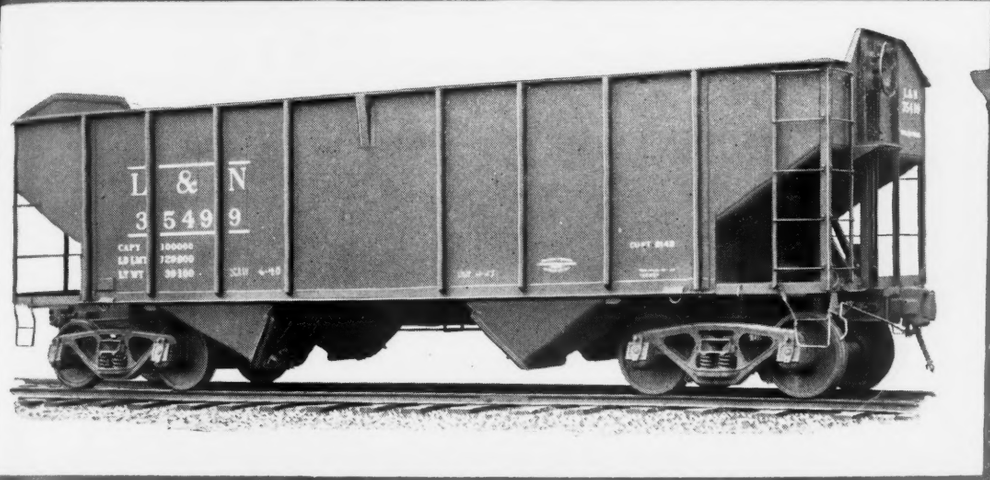

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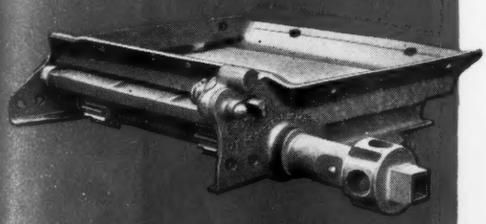
Enterprise Unit Door Latch for Hopper Cars



Enterprise Outlet for Covered Hopper Cars

Pullman-Built 70-Ton Covered Hopper Car Equipped with Enterprise Outlets

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honey was born at New York on July 24, 1884, and entered railroad service with the NYC as a clerk in the office of the auditor of passenger accounts. He subsequently served as clerk, stenographer and chief clerk in the secretary's office and was appointed assistant secretary n 1920. On December 23, 1936, Mr. O'Mahoney was elected secretary of the Central and some 50 affiliated and subsidiary companies.

Lawrence E. Pangburn, superintendent of the Mohawk and Hudson divisions of the NEW YORK CENTRAL at Albany, N.Y., has been appointed general manager of the BOSTON & ALBANY at Boston, Mass., succeeding **John F. Nash,** whose promotion to vice-president of the affiliated PITTSBURGH & LAKE ERIE was announced in *Railway Age* June 23, page 92. A photograph and biography of Mr. Pangburn were published in *Railway Age* May 14, 1951, page 117. **Charles B. Fleming,** superintendent of the Pennsylvania division of the NYC at Jersey Shore, Pa., succeeds Mr. Pangburn at Albany. **William A. Shea,** assistant superintendent at Albany, replaces Mr. Fleming at Jersey Shore, and **L. H. Stecker,** assistant superintendent at Boston, succeeds Mr. Shea.

S. T. Keiley, assistant to terminal manager of the NEW YORK CENTRAL at New York, has been appointed superintendent of the St. Lawrence, Ottawa and Adirondack divisions at Watertown, N. Y.

OPERATING

N. R. Johnson, whose appointment as general manager of the Mississippi Valley department of the RAILWAY EXPRESS AGENCY was announced by *Railway Age* on May 5, joined the agency as a driver in Chillicothe, Mo. in 1914. He held several positions and in 1942 was appointed district manager of

N. R. Johnson

public relations at St. Louis, Mo. The following year he was made chief clerk to the vice-president and general manager at St. Louis and in 1949 was promoted to chief clerk in the president's

office in New York. He was appointed superintendent at Newark, N.J., and held this position at the time of his recent promotion.

As reported in *Railway Age* June 16, **Kenneth A. Daggett** has been appointed superintendent of car service of the NEW YORK, CHICAGO & ST. LOUIS (NICKEL PLATE) at Cleveland. Mr. Daggett entered railroad service as a messenger for the Lake Erie & Western at Indianapolis in 1918, and later held various clerical positions in the car service department of that road. He was

Kenneth A. Daggett

transferred to Cleveland in 1922, just prior to consolidation of the LE&W with the Nickel Plate. Since March 1, 1947, Mr. Daggett has served as chief clerk in the car service department.

W. K. Dice, assistant to the assistant general manager of the NEW YORK CENTRAL'S Big Four district at Indianapolis, has been appointed assistant superintendent at Van Wert, Ohio. **Wendell O. Holderby,** trainmaster at Bellefontaine, Ohio, succeeds Mr. Dice. **J. H. Cook,** assistant trainmaster at Springfield, Ohio, succeeds Mr. Holderby.

R. L. Grinde, chief dispatcher for the GREAT NORTHERN at Whitefish, Mont., has been appointed assistant general superintendent of transportation at St. Paul. Mr. Grinde joined the railway in 1937 and subsequently was telegraph operator, dispatcher, rules examiner, trainmaster and assistant chief dispatcher. He has been chief dispatcher for the past year.

SPECIAL

H. G. Townsend, assistant to vice-president—labor, of the KANSAS CITY SOUTHERN, has been named to the new position of director of personnel. Mr. Townsend began his railway career in 1913, and worked for several roads as clerk, switchman and assistant yard-

H. G. Townsend

master before entering the service of the KCS affiliated Louisiana & Arkansas in 1923. He was acting supervisor of personnel and general claim agent for the L&A when he went to Kansas City, Mo., in 1942 as supervisor of personnel for the system.

MECHANICAL

As reported in *Railway Age* June 2, **Charles Frederick Schwartz** has been promoted to general master mechanic of the ERIE at Jersey City, N.J. Mr. Schwartz was born on April 28, 1895, at Hornell, N.Y., and entered railroad service on June 21, 1910, as machinist apprentice in the Hornell shops of the Erie. He subsequently served as machinist at Hornell and Galion, Ohio, fitting shop foreman at Galion, foreman at Meadville, assistant general foreman at Hornell, and general foreman at Secaucus, N.J. He was

Charles Frederick Schwartz

appointed master mechanic at Avoca, Pa., in March 1944, general foreman at Hornell in December 1945, master mechanic at Avoca in January 1946,

shop superintendent at Hornell in September 1947 and master mechanic at Jersey City in April 1950.

PURCHASES & STORES

W. M. Holmes, purchasing agent of the CANADIAN NATIONAL at Halifax, N.S., has been transferred to Detroit, Mich., succeeding **H. M. Dewart,** who has retired under the pension rules of the company. **W. H. Whitehead,** chief clerk in the purchasing department at Moncton, N.B., has been appointed purchasing agent at Halifax, succeeding Mr. Holmes. Mr. Dewart was born at St. Albans, Vt., on April 17, 1893, and entered railroad service in the auditing department of the Central Vermont. In May 1912 he joined the purchasing and stores department of the CV, becoming purchasing agent at St. Albans in 1918. On August 1, 1942, Mr. Dewart was transferred to Detroit as purchasing agent in charge of consolidated buying for all American lines of the CNR (Grand Trunk Western, CV and Duluth, Winnipeg & Pacific).

Mr. Whitehead was born at Moncton and joined the CNR as waybill checker in the accounting department there in September 1915. He was on military service from April 1916 to May 1919, when he returned to his former position. He became clerk in October 1920 and transferred to the purchasing department at Moncton in April 1923, being appointed chief clerk in December 1926.

TRAFFIC

L. A. Richardson, commercial agent for the GREAT NORTHERN at St. Paul, has been appointed to the newly created position of agricultural and industrial agent at Ephrata, Wash.

W. J. Seaton, traveling freight agent of the CANADIAN PACIFIC at Saskatoon, Sask., has been appointed district freight agent there, succeeding **C. T. Stanger,** who has retired.

E. J. Larson and **M. P. Sayles,** assistant general freight agents for the SOUTHERN PACIFIC at San Francisco, have been appointed assistants to freight traffic manager, rates and divisions, with the same headquarters. They are succeeded by **G. E. Miller** and **J. C. Burklow,** commerce agent.

Roy J. Dupre has been appointed general agent for the CHICAGO & EASTERN ILLINOIS at New Orleans.

W. Edward McCall, district passenger agent of the CANADIAN NATIONAL at Winnipeg, has been appointed assistant manager of the passenger service bureau at Montreal. **S. F. Baker,** assistant to the manager of the passenger service bureau at Montreal, has been named manager of baggage and mail traffic in the bureau.

J. T. Hellman, general western passenger agent of the SOUTHERN at Chicago, has been appointed general passenger agent at Chattanooga, Tenn., succeeding **W. C. Spencer,** who will retire on July 1, after more than 48 years of service with the Southern system. **A. L. Sewell,** traveling passenger agent at Cincinnati, has been appointed district passenger agent at Cleveland, succeeding **W. L. Daly,** who has been appointed general western passenger agent at Chicago.

A. W. Morgan, general freight agent of the NEW YORK CENTRAL, has been named assistant freight traffic manager, with headquarters as before at Chicago, effective July 1, succeeding **Leroy Blue,** who is retiring after 48 years with the Central.

The CANADIAN NATIONAL has announced reestablishment of a tourist and convention bureau at Montreal, with **J. Stuart McDonald** as its manager. Mr. McDonald was formerly general passenger agent at Montreal, with jurisdiction over all overseas and other special traffic.

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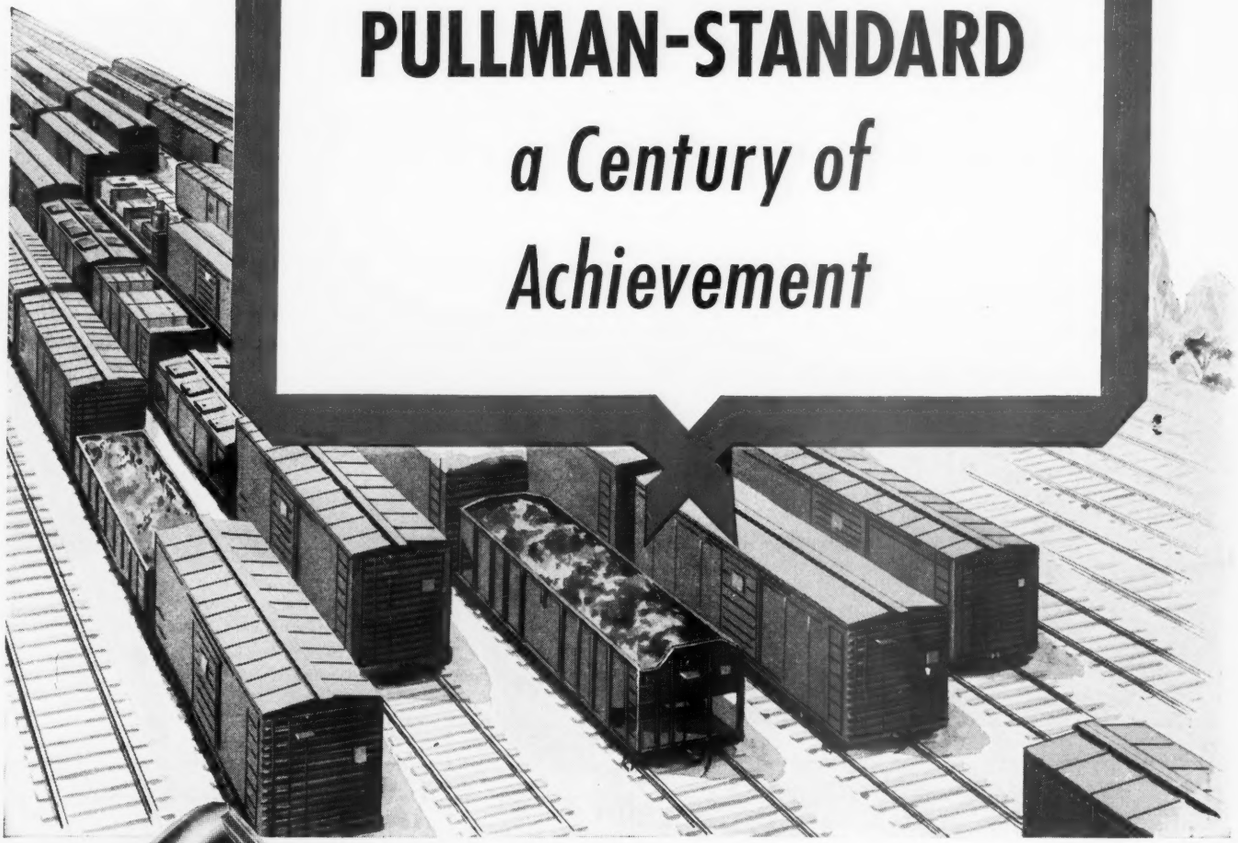

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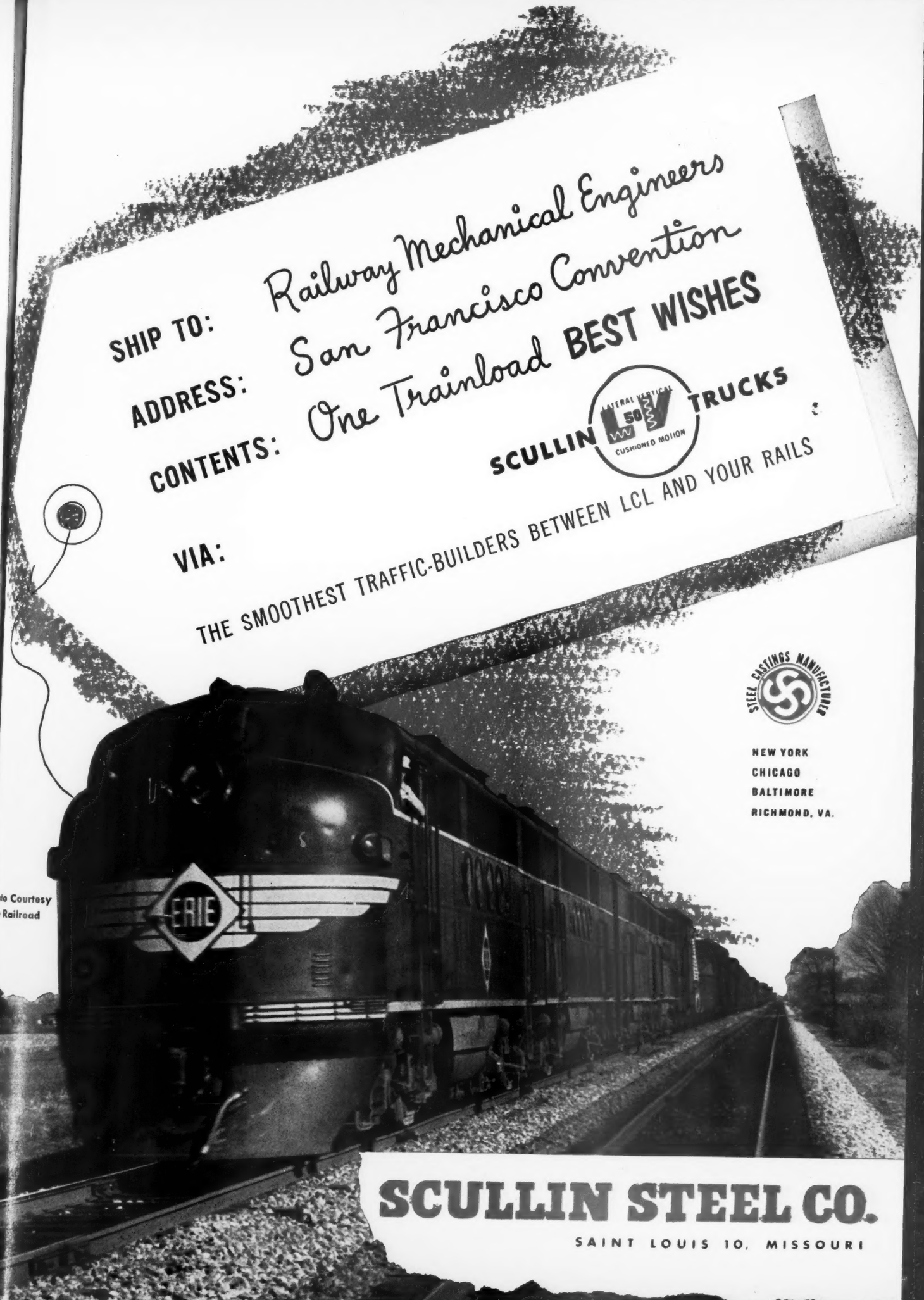
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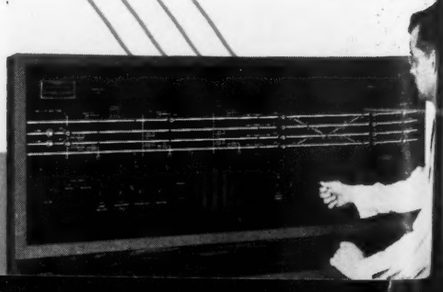

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